

Deliverables

Deliverable Number	D2.3
Deliverable Title	List of improvements of the Standardised Proposal Format and workflow
Lead Beneficiary	ELETTRA
Type	Report
Dissemination Level	Confidential, only for members of the consortium (including the Commission Services)
Due date of delivery	Month 12

Background: The www.wayforlight.eu portal was created and developed within the FP7 Integrating Activity CALIPSO (GA n. 312284), representing an unprecedented standardization effort for the users of all European light source facilities. During CALIPSO, a first version of the so-called “Standardised Proposal Format” (hereinafter: SPF) was developed and implemented as a pilot action. Within CALIPSOplus, also taking into account the results of a user survey that involved 1,500 responders, the clear commitment stated in the proposal is to allow the evolution of the SPF “*from a pilot to a routine tool within the first half of the project*”.

This deliverable presents the collective steps made to improve the SPF to become “SPF 2.0” and the results of multiple interactions; as such, it is a crucial node in the NA1 task 2.2.

Procedure followed:

After the NA1 kick-off meeting at HZDR in May 2017, the NA1 co-leader (C. Blasetti) started a series of on-site visits to interested facilities, as well as continuous Skype/phone interactions. In particular, fruitful face-to-face meetings took place since summer 2017 at DESY and XFEL.EU in Hamburg, at ALBA in Barcelona, at SOLARIS in Krakow. Close interaction was ensured also with HZDR, MAXIV, DAFNE-Light and FELIX.

Following the NA1 meeting in MAXIV in Lund on October 26th 2017, a series of steps was agreed among the participants: an excel document with a “matchmaking” attempt for FERMI, DESY and XFEL.EU was distributed to the other participants, who committed to complete their version of the exercise by the end of 2017. The collection of all inputs¹ required additional interaction and more time, up to March 2018. Starting from an overall list of possible changes, which included every suggestion received by the participants, some preliminary indications were presented in a general telco on March 19th, 2018. During this telco it was also agreed to prepare three scenarios for the so-called “SPF 2.0”, the first one being the one with the shortest list of parameters, and the other two

¹ With the exception, at the time of this writing, of ESRF, which is not participating in the TNA and which is also under upgrade at present.

incrementally adding more parameters. To draft these scenarios, additional Skype/phone calls were needed.

During the NA1 satellite meeting and the General Meeting that followed at ALBA, Barcelona, on May 16th-17th, extensive discussions took place both regarding the three proposed scenarios, as well as the overall workflow for generating a proposal on wayforlight and completing it at the selected facility of interest. The outcome was a “scenario 0”, which will be presented at the end of this document, together with a proposal for a completely new workflow.

Results: The first three scenarios suggested for the SPF 2.0 content are listed here below. For the sake of clarity, they are displayed in a way so as to start with the one with the lowest number of fields; the second and third scenarios are therefore incremental with respect to this first version. They have been realized starting from the most complete scenario (3rd), which includes most of the suggested improvements and additional fields identified following consultation with all NA1 members, and progressively reducing the number of items to be filled.

The fourth scenario developed after the meeting in ALBA, labelled “scenario 0” has not only less fields than “scenario 1”, but also a completely different associated workflow.

Scenario 1

CALIPSOplus			
Standardized Proposal Format 2.0			
Scenario 1: minimum number of fields			
Section	Field	type	limits
general part	Proposal title*	text, UTF8 character set	250 characters (incl.spaces)
	Proposal abstract*	text, UTF8 character set	500 characters (incl. spaces)
	Discipline*	drop down menu	List from EU TAA database (see second last sheet of this file)
	Specific Discipline*	drop down menu	List from EU TAA database (see second last sheet of this file)
	LEAPS Research Areas*	drop down menu	List from LEAPS deputy chair (see last sheet of this file)
	Societal Challenges	drop down menu	Horizon2020 Societal Challenges: Health, demographic change and wellbeing/Food security, sustainable agriculture and forestry, marina and mtitime and inland water research and the bioeconomy/Secure, clean and efficient energy/Smart, green and integrated transport/Climate action, environment, resource efficiency and raw materials/Europe in a changing world - inclusive, innovative and reflective societies/Secure societis - protecting freedom and security of Europe and its citizens
	Shifts required*	dropdown menu	1hours/8/12/24 and then # shifts
scientific part	Background	text, UTF8 character set	10.000 characters including spaces
	Motivation for the present proposal	text, UTF8 character set	
	Project description (Experimental methods, results expected, impact, etc)	text, UTF8 character set	
	Reference ID	DOI / PUBMED	max 5 items
	ID code	DOI number / PUBMED ID	
	pdf upload	file pdf	1MB, 1 page A4
technical part	Equipment/sample type*	choice	ancillary equipment / Biochemistry sample / Chemistry sample/Callular biology sample / valuable object
	Substance*	text	100 characters
	Risk in sample preparation or equipment*	choice	if yes, technical questions asked at facility chosen
	User supplied equipment	text	250 characters including spaces
	Equipment and products expected from the facility	text	250 characters including spaces

Question* = Mandatory

Figure 1: Content of SPF 2.0 Scenario 1.

A) Scenario 2

CALIPSOplus			
Standardized Proposal Format 2.0			
Scenario 2: medium number of fields			
Section	Field	type	limits
general part	Proposal title*	text, UTF8 character set	250 characters (incl.spaces)
	Proposal abstract*	text, UTF8 character set	500 characters (incl. spaces)
	Discipline*	drop down menu	List from EU TAA database (see last sheet of this file)
	Specific Discipline*	drop down menu	List from EU TAA database (see last sheet of this file)
	LEAPS Research Areas*	drop down menu	List from LEAPS deputy chair (see last sheet of this file)
	Societal Challenges	drop down menu	Horizon2020 Societal Challenges: Health, demographic change and wellbeing/Food security, sustainable agriculture and forestry, marina and mtitime and inland water research and the bioeconomy/Secure, clean and efficient energy/Smart, green and integrated transport/Climate action, environment, resource efficiency and raw materials/Europe in a changing world-inclusive, innovative and reflective societies/Secure societis - protecting freedom and security of Europe and its citizens
scientific part	Industry involvement	y/n	
	I would like that information about my proposal outcome is shared between different review panels if "yes", explain why	y/n	
	Shifts required*	test	100 characters (inc. spaces)
		dropdown menu	1hours/8/12/24 and then # shifts
scientific part	Background	text, UTF8 character set	10.000 characters including spaces
	Motivation for the present proposal	text, UTF8 character set	
	Project description (Experimental methods, results expected, impact, etc)	text, UTF8 character set	
	Reference ID	DOI / PUBMED	
	ID code	DOI number / PUBMED ID	
pdf upload	file pdf	max 5 items	
technical part			1MB, 1 page A4
	Equipment/sample type*	choice	Ancillary equipment / Biochemistry sample / Chemistry sample/Callular biology sample / valuable object
	Substance*	text	100 characters
	Chemical formula	text + numbers	with special characters!
	Physical state	dropdown menu	powder, liquid, single crystal, multilayer, biocrystallography, gas, solid, polycrystalline, nanoparticles
	Other - Physical state	text	100 characters
	Size	number + unit (mm ³)	100 characters
	Mass	number + unit (mg)	100 characters
	(if gas) Volume of cylinder to be used (cm ³)	number + unit (cm ³)	100 characters
	(if gas) Pressure of gas in cylinder (mbar)	number + unit (mbar)	100 characters
	Risk in sample preparation or equipment*	choice	if NO, following list stays empty. But if any is ticked, it turns automatically into YES
	Ethical issues	y/n	checkbox
	Animals involved	y/n	
	Biological	y/n	
	Radioactive	y/n	
	Oxidising	y/n	
	Corrosive	y/n	
	Contaminant	y/n	
	Combustive	y/n	
	A biological hazard	y/n	
	Carcinogenic/mutagenic/teratogenic	y/n	
Inflammable	y/n		
Toxic	y/n		
Explosive	y/n		
User supplied equipment	text	250 characters including spaces	
Equipment and products expected from the facility	text	250 characters including spaces	
Offline Facilities	text	250 characters including spaces	
Other requirements	text	250 characters including spaces	

Question* = Mandatory

Figure 2: Content of SPF 2.0 Scenario 2.

B) Scenario 3

CALIPSOplus			
Standardized Proposal Format 2.0			
Scenario 3: maximum number of fields			
Section	Field	type	limits
general part	Proposal title*	text, UTF8 character set	250 characters (incl.spaces)
	Proposal acronym	text, ASCII	10 characters (incl. spaces)
	keywords	text, UTF8 character set	100 characters (inc. spaces)
	Proposal abstract*	text, UTF8 character set	500 characters (incl. spaces)
	Financial support requested (yes/no)	choice	mutually exclusive
	Discipline*	drop down menu	List from EU TAA database (see last sheet of this file)
	Specific Discipline*	drop down menu	List from EU TAA database (see last sheet of this file)
	LEAPS Research Areas*	drop down menu	List from LEAPS deputy chair (see last sheet of this file)
	Societal Challenges	drop down menu	Horizon2020 Societal Challenges: Health, demographic change and wellbeing/Food security, sustainable agriculture and forestry, marina and mtitime and inland water research and the bioeconomy/Secure, clean and efficient energy/Smart, green and integrated transport/Climate action, environment, resource efficiency and raw materials/Europe in a changing world - inclusive, innovative and reflective societies/Secure societis - protecting freedom and security of Europe and its
	Industry involvement	y/n	
I would like that information about my proposal outcome is shared between different review panels if "yes", explain why	y/n		
Shifts required*	test	100 characters (inc. spaces)	
	dropdown menu	1hours/8/12/24 and then # shifts	
	I accept CALIPSOplus data Policy*	y/n	only if and when it will be in place and if a user selected "Financial Support: YES"
scientific part	Background	text, UTF8 character set	10.000 characters including spaces
	Motivation for the present proposal	text, UTF8 character set	
	Project description (Experimental methods, results expected, impact, etc)	text, UTF8 character set	
	Reference ID	DOI / PUBMED	max 5 items
	ID code	DOI number / PUBMED ID	
	pdf upload	file pdf	1MB, 1 page A4
technical part	Equipment/sample type*	choice	Ancillary equipment / Biochemistry sample / Chemistry sample/Callular biology sample / valuable object
	Substance*	text	100 characters
	CAS number*	text	10 characters
	Chemical formula	text + numbers	with special characters!
	Physical state	dropdown menu	powder, liquid, single crystal, multilayer, biocrystallography, gas, solid, policrystalline,
	Other - Physical state	text	100 characters
	Size	number + unit (mm ³)	100 characters
	Mass	number + unit (mg)	100 characters
	(if gas) Volume of cylinder to be used (cm ³)	number + unit (cm ³)	100 characters
	(if gas) Pressure of gas in cylinder (mbar)	number + unit (mbar)	100 characters
	Sample container	text or multiple choice	capillary/flat plate/pressure cell/other
	Risk in sample preparation or equipment*	choice	if NO, following list stays empty. But if any is thicked, it turns automathically into YES
	Ethical issues	y/n	checkbox
	Animals involved	y/n	
	Biological	y/n	
	Radioactive	y/n	
	Oxidising	y/n	
	Corrosive	y/n	
	Contaminant	y/n	
	Combustive	y/n	
	A biological hazard	y/n	
	Carcinogenic/mutagenic/teratogenic	y/n	
	Inflammable	y/n	
Toxic	y/n		
Explosive	y/n		
User supplied equipment	text	250 characters including spaces	
Equipment and products expected from the facility	text	250 characters including spaces	
Offline Facilities	text	250 characters including spaces	
Other requirements	text	250 characters including spaces	
Question* = Mandatory			

Figure 3: Content of SPF 2.0 Scenario 3.

Regarding the workflow associated to scenarios 1-3, we must remark that the SPF was deliberately conceived as a) facility-independent and b) user-independent. Therefore at present the form is filled in online on the wayforlight portal, with the overall proposal subsequently being finalized at the selected facility. This is necessary due to the diverse information and workflow requirements at the individual facilities.

Out of the 17² laboratories which are part of both the CALIPSOplus Transnational Access Programme and the NA1 activity, 4 do not manage proposals through a so-called Web-based User Office (WUO), but via email exchange between the individual user and the facility's user office. For these facilities, the possibility to create a .pdf file directly from the wayforlight site, which includes all input from the SPF fields, was originally designed, and was also exploited by other facilities during the pilot phase. For those facilities accepting SPF 2.0 in .pdf format, the proposal creation and submission steps would therefore not change.

Umbrella login is currently available at 10 of the NA1 facilities. To improve the workflow for those facilities managing the wayforlight's SPF output through a WUO, an optional login with UmbrellaID (www.umbrellaid.org) was already offered on wayforlight. In this way, after step one (<http://www.wayforlight.eu/en/users/spf/form/>) i.e. SPF proposal generation, the user could be automatically redirected to the specific proposal creation page inside the web system of the selected facility, with no need for additional authentication³.

In the currently implemented SPF workflow, after completion of the SPF, the user must download a file which includes both the text and picture(s) in .xml format. In step 2, the list of all available facilities is offered to the user. Depending on the choice of the facility, either the SPF has to be converted from .xml into .pdf format and then sent to the user office of the selected facility or proposal finalization inside the WUO of the selected facility can start. In this latter case, the user first has to upload the .xml file to the system, and then to complete the proposal by filling the facility-dependent fields (e.g. proposers and co-proposers, chosen beamline, beamtime specifications, sample disposal).

As shown in Figure 4, the proposed change was such that the user will *not* have to download and upload the .xml file; instead, the data would be automatically transferred to the selected facility's WUO, resulting in a much easier and quicker process. However, this process would have allowed submission of a proposal to one single facility at a time.

Therefore, the WUO page with an "upload XML" button would continue to exist, because whenever a user would like to re-submit a proposal, to upload it for fine editing, or to submit it to a different facility, he/she must have the possibility to directly access the WUO page of the selected facility. This new workflow would have been a good compromise between being user-friendly and being facility-friendly: for the first choice of a facility, this will provide an easy direct link with no need to download

² At the time of this writing, these facilities are, in alphabetical order: ALBA, ASTRID2, CLIO, DAFNE-Light, DESY (PETRA II and FLASH), Diamond, Elettra (Elettra and FERMI), FELIX, HZB (BESSY II), MAXIV, PSI (SLS and SwissFEL), HZDR, SESAME, SOLARIS, SOLEIL, TARLA, European XFEL.

³ Provided the user had previously created an account at the local WUO system and matched it with his/her Umbrella account.

and then again upload a file. However, the .xml can still be downloaded in step 1 to enable future use, for example for submitting a proposal to a second facility or for subsequent editing.

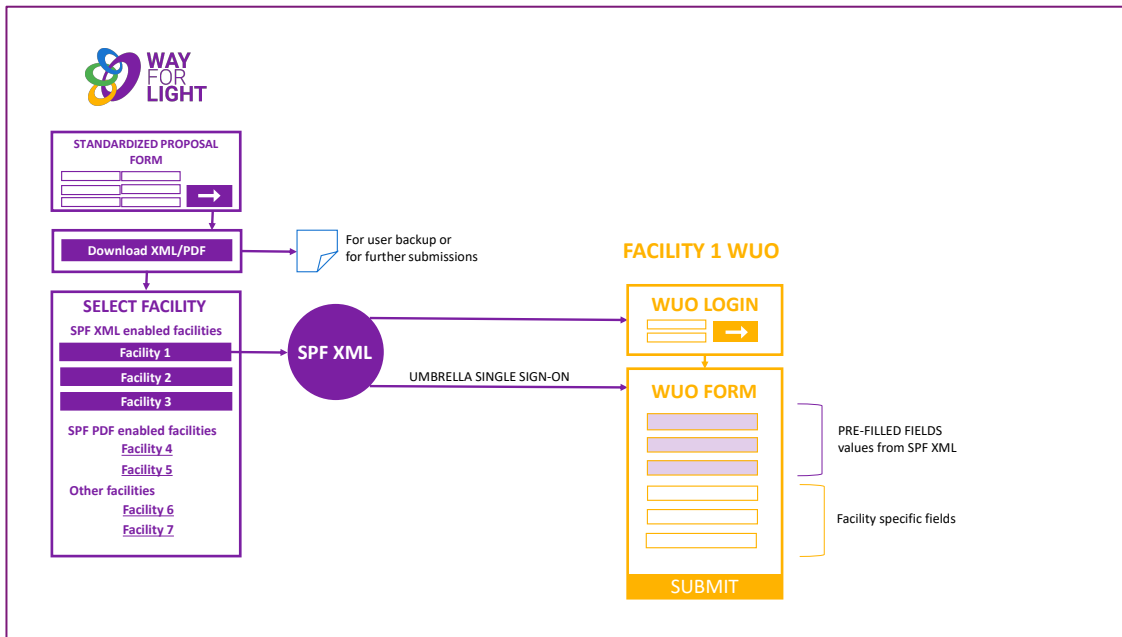


Figure 4: Proposed workflow improvement for the SPF 2.0.

The European lightsources landscape encompasses a very varied set of facilities with large differences in size, experimental opportunities and infrastructure. Based on these peculiarities as well as on national laws concerning technical topics such as safety etc., the facilities have developed specifically tailored beamtime application processes. Extensive discussions in the past months, have casted the doubt that harmonizing these technical topics may lead to a very complex application procedure for the users, with the disadvantages outweighing the benefits.

In addition, exhaustive discussions during the NA1 face-to-face meeting at ALBA on May 16th revealed that the benefits of adopting of any of the three possible SPF 2.0 scenarios described above would not justify the tremendous workload for IT departments and user offices resulting from the implementation of the access route based on it. Moreover, a significant concern was raised regarding the quality of standardized proposals: in particular, users starting to write a standardized proposal might not tailor their proposal enough to the particular facility or beamline of their choice, resulting in an overall lower quality of the proposal.

Therefore, a very preliminary “scenario 0” was created shortly after the meeting

Scenario 0, following face-to-face discussions in ALBA

CALIPSOplus			
Standardized Proposal Format 2.0			
Scenario 0: after NA1 face-to-face in ALBA			
Section	Field	type	limits
general part	Proposal title* Proposal abstract* Discipline* Specific Discipline* Societal Challenges Industry involvement (y/n) Shifts required*		Each facility will keep its own field type and limits
scientific part	Background Motivation for the present proposal Project description (Experimental methods, results expected, impact, etc) Reference ID ID code		Each facility will keep its own field type and limits
technical part	User supplied equipment Equipment and products expected from the facility		Each facility will keep its own field type and limits
EXPLANATION			
<p>The idea of scenario 0 content and workflow is that</p> <ol style="list-style-type: none"> 1. proposal filling on wayforlight will be dropped down 2. facilities committ to adapt/change/modify their proposal formats to the scenario 0 ones 3. Users will feel a standardisation effort while 4. Facilities will keep their proposal creation systems 5. Facilities will benefit by easy standardised user statistics 			

Figure 5: Content of SPF 2.0 Scenario 0 and short explanation.

For the reasons listed above, the workflow associated with scenario 0 is radically different from the current or the previously proposed one: *the standardisation effort is shifted from accepting and processing an .xml or .pdf file generated on wayforlight, to adapting/changing each individual facility's proposal format, to comply with the fields proposed in scenario 0.*

The users will still experience standardisation, and proper dissemination will emphasise this achievement. Users will be offered a prototype of the standardised proposal template and guidelines on wayforlight, but the whole proposal generation procedure will be managed at the facility level.

This proposal format enables better comparability between different sources when creating statistics. On May 18th, as a result of many intense discussions, the CALIPSOplus General Assembly approved⁴ the following motion: **Drop the 2-step proposal generation via wayforlight and shift standardisation to the individual facilities' proposal submission systems.**

Conclusions and next steps:

The work needed to complete this deliverable has been complicated, being multi-level and multi-facility. Collecting all inputs and deriving a coherent set of possible improvements towards the "SPF 2.0" has been challenging, but worth it.

Finalization of the deliverable was possible only after the NA1 satellite meeting of the 1st CALIPSOplus Annual Meeting in ALBA, Barcelona, on May 16th-18th, 2018: this explains the one month delay of the deliverable.

After the approval and submission of the current deliverable, "scenario 0" will be refined (into "scenario 00") taking into account suggestions issued by several facilities during the meetings. As an

⁴ 22 voting members, 19 favourable and 3 abstentions.

example, the field for references will presumably have a mandatory free-text box and an optional structured box for the DOI/PUBMED code.

Subsequently, the Coordinator will initiate a remote vote of the General Assembly to approve the finalized “scenario 00” and to start the implementation phase. Deliverable D2.5 (SPF 2.0 released), due by end of October 2018, will change its meaning in the sense that there will be no longer a separated SPF 2.0 form.

Moreover, the NA1 leader will propose an optional milestone to be added to each Transnational Access Workpackage, identifying the project month in which the new standardised route will be available for users at the specific facility.

Annexes: Attached to this deliverable we include the Excel document including the previous SPF, the list of changes suggested, the four scenarios and all the facilities’ inputs received. The scenarios are displayed both in a polished version and in an incremental one, i.e. in which all fields are included so show differences between them.

Download link for file “SPF_2.0_inputs_20180516.xls”

<https://drive.elettra.eu/f/af7ddb3cf29349ec8060/?dl=1>