

DDI Alliance Executive Board Meeting (virtually, via email)

22 June 2022

Present: Libby Bishop, Bill Block, Cory Chobanik, Cathy Fitch, Maggie Levenstein, Jared Lyle, Steve McEachern

FY2023 budget

Funding requests for FY23 (July 2022 - June 2023) were solicited in March and accepted from the DDI community through the end of April. The full list of funding requests received from the community are detailed in Appendix A.

Requests related to scientific or technical activities were evaluated in May by the DDI Scientific Board from the perspective of the Alliance Scientific Work Plan. Ingo Barkow, Chair of the Scientific Board, emailed this summary of the Scientific Board's evaluation, along with a document summarizing the funding requests' relationship to the scientific plan (see Appendix B):

"As they all relate to the Scientific Plan we consider them to be equally important and recommend them to be funded. If there are any questions or other opinions we can also schedule a meeting with the EB to discuss those issues, but currently with the budget surplus we have and the validity of the requests (there is nothing unusual) I think we should be fine."

Total expenses requested for FY23 = \$160,377 USD. Projected revenue for FY23 = \$94,500. If all expenses are approved, the FY23 expected loss = \$65,877 and the forecast reserves balance from general operations on 30 June 2023 will be \$261,831. (The detailed FY22 DDI Alliance financial report, as well as slides summarizing the report, were presented at the June 1st Annual Meeting of Members.)

As pointed out by Achim Wackerow at last year's annual meeting of members (see Appendix C), the ending fund balance of the Alliance has grown each year since at least 2017. Most years, the Alliance approves a deficit and then ends with a surplus -- usually because some proposed activities are not completed or delayed; during the pandemic, most proposed funding for travel was not spent. This pattern may change in this upcoming fiscal year since travel is re-opening.

At the June 2022 DDI Annual Membership meeting, Bill said in his State of the Alliance report that he looked forward to a future when requests for DDI funding exceeded our capacity to fund all requests. Such a situation would make it difficult to merely deem all requests as equally worthy to each other, and require that decisions be made about which requests were truly the best use of DDI Funds.

Bill sent an email to the Board with the above information and requested that each member vote on the FY23 budget by replying with a “Yes,” “No”, or “Abstain” vote.

All six voting-eligible members of the Executive Board voted unanimously to approve the FY23 budget as outlined in Appendix A (total expenditures of \$160,377 USD).

It was noted via email that a \$65,000 expected deficit is obviously not sustainable year over year over year, but given our history of groups underspending, even if the resumption of travel means that spending does come closer to what we budget in FY23, the Alliance will be OK for one year, given our level of reserves. Most importantly, all of the requests seem reasonable, and the Scientific Board has provided input on the requests relevant to their work (deeming them all to be in support of the DDI Strategic Plan and all equally worthy of funding).

It was noted via email that there is not any specific expenditure for marketing in the FY23 budget, although there are items in other groups that might in some cases be considered "marketing" (webinars, training, etc.), so this is not necessarily a problem. The Executive Board will need to be conscious of marketing efforts looking forward. With Barry moving on, and the Board now looking to bring on a new chair of the Marketing and Partnerships working group, we will want to ensure that this is covered for the next budget.

Thanking Barry

Barry Radler retired from the University of Wisconsin Institute on Aging and has relinquished his seat on the DDI Executive Board and his position as chair of the DDI Marketing and Partnerships working group, effective Friday, June 10th. The Board acknowledged and thanked Barry for his service via email.

Appendix A

These are the DDI funding requests for FY2023 (July 1, 2022 through June 30, 2023), including requests submitted by Alliance members as of May 3, 2022. Each Alliance committee or group was asked to submit a funding request. Additionally, a message was sent to the entire DDI community soliciting funding requests. The DDI Scientific Board evaluated requests related to scientific or technical activities from the perspective of the Alliance Scientific Plan. They provided feedback about requests related to scientific or technical activities to the Executive Board. A link to the full funding request description is also provided.

	ITEMNO	Reviewed by Scientific Board?	Source	Activity	Requested Total	Approved Total
Recurring Expenses						
			Staff Salaries			
	1	No		Secretariat staff salaries	\$45,000	\$45,000
					<i>Total</i>	\$45,000
			Research Supplies & Services			
	2	No		DDI Registry web hosting	\$900	\$900
	3	No		Zoom virtual meetings	\$150	\$150
	4	No		Wire fees (estimate)	\$100	\$100
					<i>Total</i>	\$1,150
			Alliance Travel & Hosting			
	5	No		Annual meeting hosting	\$1,000	\$1,000
	6	No		Meeting attendance (e.g., UNECE)	\$2,000	\$2,000
					<i>Total</i>	\$3,000
Funding Requests						
<i>Committee/WG Requests</i>						
			Scientific Board			
	7	Yes		Scientific Board Meeting	\$7,000	\$7,000
	8	Yes		Hackathon	\$10,000	\$10,000
					<i>Total</i>	\$17,000
			DDI-CDI Working Group			
	9	Yes		CDI Workshop: Hotzone Week on FAIR	\$5,551	\$5,551
	10	Yes		Development and Packaging of the CDI WG Production Tools	\$9,600	\$9,600
					<i>Total</i>	\$15,151
			Technical Committee			
	11	Yes		Implementation Languages Meeting	\$17,300	\$17,300
	12	Yes		Technical Committee Meeting	\$16,450	\$16,450
					<i>Total</i>	\$33,750
			Training Working Group			
	13	Yes		Funding for workshops (travel and fees)	\$10,000	\$10,000
	14	Yes		Discount / waiver workshop fees (for DDI members)	\$1,500	\$1,500
	15	Yes		Webinars	\$7,500	\$7,500
					<i>Total</i>	\$19,000
<i>Community Requests</i>						
	16	Yes	Dagstuhl Organiser's Group	"Interoperability for Cross-Domain Research: Machine-Actionability & Scalability" workshop	\$6,912	\$6,912
	17	Yes	Statistics Canada	DDI libraries (carry-over request from FY22)	\$19,414	\$19,414
					<i>Total</i>	\$26,326
					<i>Total Expenses</i>	\$160,377
				ESTIMATED REVENUE	\$94,500	\$94,500

DDI Alliance Budget Request for Fiscal year 2022/2023 : Physical Scientific Board Meeting in Chur

Overview

This budget is a roll-over from two previous years and has been approved twice in the past. Originally, this budget was supposed to finance a physical meeting of the temporary working group for restructuring the Scientific Board in 2020, was postponed due to COVID and finally was planned for a physical meeting of the newly formed Scientific Board in 2021 which again was postponed due to COVID. Currently, the Scientific Board in its new format has existed since the beginning of 2021 and the members never met personally. Also, there are several topics (e.g. nomination of external advisors) which would need longer discussion than can be provided in the monthly scheduled 1.5h virtual meetings. Thus the SB urgently needs 2-3 days at one location to facilitate deeper discussions. This meeting is scheduled for September 5th and 6th in Chur, Switzerland. To be cost efficient by saving travel costs the meeting has been connected to the Dagstuhl workshops which are planned for the previous week.

Budget

Like in the requests before we ask for 7000 USD for accommodation and travel costs.

DDI Alliance Budget Request for Fiscal year 2022/2023 : Hackathon

Overview

The DDI Developers Group has been dormant since 2014 but the crucial expertise from software development is missing more and more as product development continues. In the last years the DDI Alliance lost its connection to this community as people changed into different roles without having successors and also as the former informal group was not stable enough to exist. After this long period of time it seems this community within the Alliance has to be re-developed from scratch. The first step is to nudge DDI members to nominate Scientific Representatives and Technical Contacts. From these contacts potential members for a DDI Developers Group could be sourced. Furthermore, to make collaboration more interesting we suggest holding a 2-3 days hackathon to develop prototypical solutions in DDI contexts where there have not been any efforts yet. This hackathon can be used to identify core roles for a Developers' Group. This hackathon also should be connected to another DDI event (e.g. NADDI, EDDI, Dagstuhl) to provide easier internal funding from the members (currently DDI members are not used anymore to bring technical personnel to conferences).

Budget

Financing a standalone full hackathon with international travel costs would be out of the range for the current budget (30.000 - 40.000 USD) therefore we suggest combining the hackathon with an existing conference. This way some of the costs could partly be covered by member organizations. Nevertheless, we apply for a budget of 10.000 USD to support potential participants who might not be covered and for additional costs like catering (at a hackathon food and drink expenses are usually covered while participants are working).

DDI Alliance Budget Request for the Financial Year 2022/2023

CDI Working Group

Overview

This document describes two separate budget requests from the CDI Working Group. The first is for travel budget to hold an open workshop in the margins of the “Hotzone Week on FAIR” taking place during October, 2022 in Leiden in the Netherlands. The other budget request is related to preparing and packaging the production environment developed by the CDI Working Group to develop syntax representations for use by implementers in the community.

The total being requested is:

DDI-CDI Workshop: Hotzone Week on FAIR: \$5,551.20

M2T DDI-CDI Tools: \$9,600.00

Total Budget Requested: \$15, 151.20

I. CDI Workshop: Hotzone Week on FAIR

DDI-CDI is now being recognized as a specification which could help the implementation of the FAIR principles as a key part of a suite of related, non-domain-specific standards (DCAT, Schema.org, PROV, I-ADOPT, etc.). This package is being described as the “Cross Domain Interoperability Framework” (CDIF) – it continues to be a topic of interest at various conferences and workshops, notably at the upcoming Dagstuhl event in 2022.

The CDI WG has established the need to align their work not only with other DDI specifications, but also other external standards. For the purposes of supporting FAIR implementation, alignment with the FAIR Digital Object Framework (FDOF) is critical. This framework will be the focus for the Hotzone Week on FAIR (<https://www.go-fair.org/events/hotzone-week-on-fair-at-leiden-2022-european-city-of-science/>).

The requested budget would support the travel of up to four people from the CDI WG to host such an event (two from North America and two from Europe).

The specific goals would be:

- (1) Promote CDI as a specification for supporting the use of FAIR Digital Objects, in line with the emerging CDIF recommendations
- (2) Gather input on alignment with other specifications related to the FDOF, including FIPs, FAIR Data Points, etc.
- (3) Make connections and potentially recruit people with expertise in the FDOF and related specifications to participate in supporting the implementation and further development of DDI-CDI.

This is seen as an event covering a full day and possibly two, with some presentation, but primarily focused on working sessions on specific topics related to this theme.

Estimates of costs are given below:

Hotel in Leiden	€150.00	2	€300.00	
Food cost per day in Leiden	€45.00	3	€135.00	
Hotel at Frankfurt airport	€150.00	1	€150.00	
Flight in Europe	€400.00	1	€400.00	
Flight transatlantic	€900.00	1	€900.00	
Local transport at origin and destination	€200.00	1	€200.00	
				€2,070.0
Total cost per person from Europe for Leiden meeting			<u>€1,035.00</u>	2
				0
				€3,070.0
Total cost per person from North America for Leiden meeting			<u>€1,535.00</u>	2
				0
				€5,140.0
Total cost of Leiden meeting				0

Using a conversion rate of 1.08*, totals are as follows:

Two European participants: \$2,235.60

Two North American participants: \$3,315.60

Total: \$5,551.20

* Currency conversion rate as of 15 April 2022:

<https://www.xe.com/currencytables/?from=USD&date=2022-04-15#table-section>

II. Development and Packaging of the CDI WG Production Tools

The DDI-CDI specification is primarily a model, which will be implemented using either the syntax representations provided (XML, RDF), community-specific variations of those, or other syntaxes (e.g., Python, JSON, Java, etc.). Such syntax representations require not only that the selected fields and syntax be documented, but that the use of such fields in relationship to the standard model itself be described. In many cases, classes and properties in the model may be supported in specific ways which will require that the technical details to support machine-to-machine interoperability must be described for community implementers.

The CDI WG has developed a solution for presenting the full specification in this way, along with the “generic” syntax representations. The resulting browser-based interface integrates field-level

This presentation was developed by configuring the Model to text (M2T) open-source application – based on Object Modeling Group standards – for use with the DDI-CDI model (see <https://projects.eclipse.org/projects/modeling.m2t>). In order to make it easier for community implementers of DDI-CDI to adopt the specification, it is felt that providing a solid basis for modification, using open-source tooling, is ideal. M2T is not a complex tool to use, and our experience with it suggests that it would be easy to learn for most developers in the community.

The requested budget would be for the adaptation of an internal working solution to a tool suited for use by community implementers, including packaging of the tool and documentation of how to work with the provided DDI-CDI configuration within the M2T development environment.

This would cover both the modification of published “generic” XML and RDF syntaxes and the development of new syntax representations. (Any target syntax which can be described as text-based code is a potential candidate for this solution.)

It is estimated that this work would require 24 person-days, with a cost of \$400.00/day.

The total amount requested is \$9,600.00.

Implementation languages across the DDI Suite: Cross Working Group In-Person Meeting

Proposal:

Submitted by Wendy Thomas, Chair, Technical Committee, 2022-04-29

The Technical Committee with the support of the DDI-CDI Working Group propose an in-person meeting of 3-5 days to accomplish the following goals:

Identification and use of Implementation languages in the DDI Suite of products:

- Identify priority implementation languages for DDI products (RDF, JSON, UML, XML, etc.)
- Identify style options for implementation languages
- Mappings to produce syntax representations - Moving from conceptual models to serialization
- What aspects of implementation should be consistent
 - Document options, decisions, and reasoning
- Provide guidance for variation from agreed model
 - based on applied use of product
 - what needs to be noted and how (need a consistent expression of exceptions and reasons)

Outputs:

- Documentation of implementation language decisions
- Guidelines for implementing languages in various products
- Plan for providing and testing multiple implementation languages for current products

Background:

The DDI Suite currently expresses its individual products in a number of different implementation languages. Each product uses one or two of these languages and many are interested in expanding to multiple expressions. Current usage includes XML schema, UML XMI, RDF, and JSON. The work of the Technical Committee moving the DDI Lifecycle to the COGS production tool will allow us to store content in a CSV format and export to multiple languages. DDI CDI is also working on adding implementation languages beginning with RDF. Rather than work independently the Technical Committee and the DDI-CDI Working Group believe that it would be beneficial to explore options and provide guidelines to the DDI maintenance and development groups on the use of various features of these languages. We need to determine if and where we need uniformity and how to inform users of differences in the

implementation of individual products in different languages. This work addresses the approved Scientific Board Work Plan Goals noted in the appendix.

Possible Participants:

- Pierre-Antoine Champin (W3C contact and JSON editor)
- Franck Cotton
- Darren Bell
- Dan Smith
- Jeremy Iverson
- Jon Johnson
- Flavio Rizzolo
- Oliver Hopt
- Johan Fihn
- Wendy Thomas
- Olof Olsson
- Arofan Gregory
- Joachim Wackerow
- Hilde Orten

The target number of participants is 8-10

Timing:

A European location is planned as most identified participants are located there.

We anticipate the meeting taking place in late Fall 2022. If possible, it may coincide with EDDI 2022 to be held in Paris.

Cost estimation in USD:

Costs:	Per Person Local	Per Person Europe	Per Person North American	Total for 5 days
Transportation		500	1500	8000
Lodging		170	170	6800
Food	50	50	50	2500
TOTAL				17300

Costs calculated for 10 people including 2 local, 4 European, and 4 North American

APPENDIX:

Work Plan Goal:

- Lifecycle 3.4 – Complete the move of Lifecycle to the COGS modeling base, testing of input and output for coverage and consistency. This will include testing multiple outputs (XML schema, RDF, JSON, UMI to begin with). ...

- Align different product implementations over time - how does that work and what does it look like

- Defining roles of individual products
 - How products work together
 - How advances/changes in one product affect other product development
 - Role of products needs to be clear - use case driven rather than content coverage

In-Person Meeting of the Technical Committee

Submitted by Wendy Thomas, Chair, Technical Committee, 2022-04-29

Updated on 2022-05-10

Proposal:

The purpose of this meeting is to finalize the use of COGS as a means of automating the production process of DDI Lifecycle and determine the feasibility of its use for other products. This meeting was originally funded for the 2021/22 fiscal year and was postponed due to COVID restrictions.

Goals:

A virtual meeting is being held the first week of May 2022 to verify the consistency and validity of the input process from the DDI Lifecycle Version 3.3 into the COGS CVS and related files. The goals of the proposed workshop will focus on the following:

Output from COGS

- Finalize current DDI-L in COGS - output is complete and correct
 - Input should have been completed in May virtual meeting
 - Are the serializations as currently written in COGS working following the rules for flattening etc
 - Auto-generated from content model of COGS - same content with variation of representation
 - The goal for DDI-L 3.4 is the same content of 3.3 with revised format including rules for flattening and serialization
- Feasibility of COGS for CDI
 - Testing input and output functions
 - Identify issues that need to be resolved
- Review the current use of COGS for SDTL to identify any procedures and protocols that can be extended to other products and to learn from their experience
- Output options for Codebook
 - Determine the feasibility of using COGS for managing Codebook
 - What would the output rules for Codebook look like
 - What might the rules for the expression of XML in order address the needs of this user community

Outputs:

- Prepare a version 3.4 that matches 3.3 in terms of content but provides an alternate structure
- Set this up for technical review by implementers

- Document progress of Codebook and CDI feasibility in COGS
- Fully document the rules guiding the production of multiple implementation languages for DDI Lifecycle in preparation for a future meeting on implementation language comparability between products in the DDI suite

Participants:

Wendy Thomas
 Jon Johnson
 Flavio Rizzolo
 Johan Fihn Marberg
 Darren Bell
 Oliver Hopt
 Jeremy Iverson
 Dan Smith
 Ingo Barkow - Scientific Board contact to TC

Timing:

Summer (July/Aug) 2022

Location:

Minneapolis (3 members live here - ISRDI will provide space)

Cost:

Costs:	Per Person Local/day	Per Person Europe/day	Per Person North American/day	Total for 5 days
Transportation		1800	700	9700
Lodging		150	150	3750
Food	50	50	50	2000
TOTAL				16450

Calculated for 5 days with 3 local and 5 European and 1 North American

Appendix:

Work Plan Goal:

- Lifecycle 3.4 – Complete the move of Lifecycle to the COGS modeling base, testing of input and output for coverage and consistency. This will include testing multiple outputs (XML schema, RDF, JSON, UMI to begin with). CURRENT STATUS: Evaluated

input issues and are currently correcting that script. Output scripts accurately reflect stored content.

- COGS as a processing tool has advantages for Lifecycle as noted when agreed on in 2019 including; auto generation of output structures based on translation rules from object descriptions stored in structured CSV file; ability to add new output formats as needed; ability to generate output and test new content as created;
- Review implications of multiple outputs on modeling, incorporating discussions and approaches from the Moving Forward work where appropriate; this may require minor remodeling of some choice or sequence usage

DDI Training Working Group
Budget Request for FY2022 (July 2022 through June 2023)

Submitted by: Alina Danciu (co-Chair) and Hayley Mills (co-Chair)

Submitted on: April 29, 2022

Budget Request

The Training Working Group requests \$17,000 for FY2023.

FY2023 (June 1, 2022 - June 30, 2023)

Training Group Activity	Purpose / Goal	Audience	Cost (USD \$)
Funding for workshops (travels and fees)	DDI will be promoted by submitting workshops to about 5 conferences. Travel costs and conference fees are covered for the instructor.	new users	10,000
Discount / waiver workshop fees (for DDI members)	We will offer a workshop fee waiver for DDI members and a conference fee discount for instructors at two conferences (EDDI and IASSIST).	new and advanced users	1,500
Webinars	A series of 6 webinars on DDI to organise, with the help of a consultant, like we did for the 2021/2022 DDI Alliance/CODATA series. A thorough description of this request here .	new and advanced users	7,500 + In-kind contributions
Web page update	Members of the Training Group continue to update and make changes to training-related content on the DDI website.	new and advanced users, DDI Trainers	In-kind contributions
Translation	Start with the translation of the basic introductory slide decks.	new and advanced users	In-kind contributions
Training Material update	Members of the Training Group continue to produce Training Material (including exercises) on Zenodo and the DDI website (with the help of the DDI assistant).	new and advanced users, DDI Trainers	In-kind contributions
Teaching in webinars or at conferences	Members of the Training Group engage in teaching activities to	new and advanced users	In-kind contributions

	increase DDI knowledge in the research community.		
TOTAL			19,000

Active Members of the DDI Training Working Group

- Alina Danciu (Co-chair)
- Christophe Dzikowski
- Adrian Dusa
- Dan Gillman
- Arofan Gregory
- Kaia Kulla
- Kathryn Lavender
- Jared Lyle
- Lucie Marie
- Geneviève Michaud
- Hayley Mills (Co-chair)
- Laura Molloy
- Hilde Orten
- Flavio Rizzolo (Scientific Board contact)

DDI Alliance Budget Request for Fiscal year 2022/2023: DDI Training Webinar Series

Overview

For two years, the Training Opportunities sub-group of the DDI Training WG has been organizing a program of bi-monthly hour-long webinars on topics related to DDI. These are aimed at a general audience, and are hosted by CODATA, using both the normal DDI Alliance distribution channels and also the RDM lists maintained by CODATA to reach a broad potential audience. There have been several hundred attendees at these events – they typically draw between 30 and 70 people. Further, these webinars lead to the development in 2021 of the EDDI “Training FAIR” which reached an even larger audience.

These events have been organized with the help of a paid consultant. This budget proposal is requesting funding at the same level as for the past two years to support the development of materials. This has been done through a series of “mini-sprints” involving a small group of interested individuals who produce and review slides for the event. The materials are then provided to the Slide Review sub-group for modification and possible inclusion in the Training Materials resource.

Budget and Details

A series of six topics has been the target for the first two cycles, and this would remain the target for 2022/2023. The work of preparing draft slide decks and organizing and running the events requires approximately 3 weeks of person time for the consultant. This effort is in addition to the proviso that the consultant will also be available to help in the presentation and running of the events as needed.

To support this work, we are requesting a budget of \$7500.00.

DDI Alliance Budget Request for the Financial Year 2022/2023

Schloss Dagstuhl Workshop Organizers: Arofan Gregory, Hilde Orten, Joachim Wackerow, Simon Cox, Simon Hodson, and Steve McEachern,

Overview

The budget requested would fund the travel of some participants at the upcoming workshop at Schloss Dagstuhl in Wadern Germany, from 29 August through 2 September 2022, titled “Interoperability for Cross-Domain Research: Machine-Actionability & Scalability”. While most participants will be funded by their own institutions or project budgets, some invitees may not be able to arrange for support of this type. The costs of supporting such participants will be shared with CODATA, which is also sponsoring the event. The request given here is based on an estimate of costs split between the two organizations – this portion is what the DDI Alliance would be asked to provide. The separate CODATA contribution will be equal or greater to the sum requested here.

The total being requested is \$6,912.00.

Topics and Relationship to DDI Alliance Work Products and Goals

The topic will be cross-domain interoperability of data and metadata, with a focus on a coherent set of standards and models to make this practically possible. Among these, DDI-CDI is used for cross-domain data description, but other DDI work products including DDI Codebook, DD Lifecycle, SDTL, and XKOS are also germane to the work. Many other significant metadata specifications are also involved (DCAT, Schema.org, I-ADOPT, PROV, SKOS, etc.).

The workshop will be organized around a set of real-world cross-domain case studies, but will also have a modelling and technical component. Use cases will be coordinated with those being addressed by projects and initiatives related to the implementation of FAIR data and infrastructure (EOSC Interoperability Framework, WorldFAIR, GOSC, etc.). Representatives of many different organizations and domains will be invited to the workshop both for their technical expertise and for their domain knowledge.

The activities and focus of this workshop align with the goals of the DDI Alliance as stated in their current strategic plan:

From “II. Reachable Short-Term Goals for 2021 and 2022”:

7.) Promote the role of DDI in external projects like e.g. European Open Science Cloud (EOSC) and FAIR.

11.) Support and facilitate the following action items provided by the different working groups:

a. CDI

- *Collaborate on activities to implement and get feedback on the specification, in particular with data providers, RIs, EOSC and cross-domain case studies.*

From “IV. Long Term Vision for DDI Products and Processes”:

4. The Scientific Board will promote interoperability and collaboration with other metadata standards

The workshop will produce guidance on a coordinated set of core metadata standards (the “Cross-Domain Interoperability Framework” - CDIF) and how this can best support scalable FAIR implementation. These standards will support the development of technical services for both the social, behavioral, and economic sciences, public health, and official statistics, and the sharing of data and metadata among and between other domains.

The DDI work products will be a significant part of CDIF and the recommendations/guidance needed to implement it within the DDI community and beyond.

Budget

The total budget request is for \$6,912.00. This will support travel and accommodation costs for three participants based in Europe, and for two participants coming from North America. (The cost of flights is significant, so these categories are estimated separately.)

Our request is based on the following estimates:

Accommodation with full board in Dagstuhl	€70.00	6	€420.00
Hotel at Frankfurt airport	€150.00	1	€150.00
Flight in Europe	€400.00	1	€400.00
Flight transatlantic	€900.00	1	€900.00
Local transport at origin and destination	€200.00	1	€200.00
Total cost per person from Europe for Dagstuhl meeting			<u>€1,020.00</u>
Total cost per person from North America for Dagstuhl meeting			<u>€1,670.00</u>

With a conversion rate of 1.08 USD to 1 EUR*, the totals are as follows:

Per person (Europe-based): \$1,101.60

Per person (North America-based): \$1,803.60

For three Europe-based participants, and two North American participants, the total is:

3 European:	\$3,304.80
2 North American:	\$3,607.20
Total:	\$6,912.00

Please note that these estimates account for the subsidised food and accommodation rates at Schloss Dagstuhl, made possible through the support of that institution.

* Currency conversion rate as of 15 April 2022:

<https://www.xe.com/currencytables/?from=USD&date=2022-04-15#table-section>

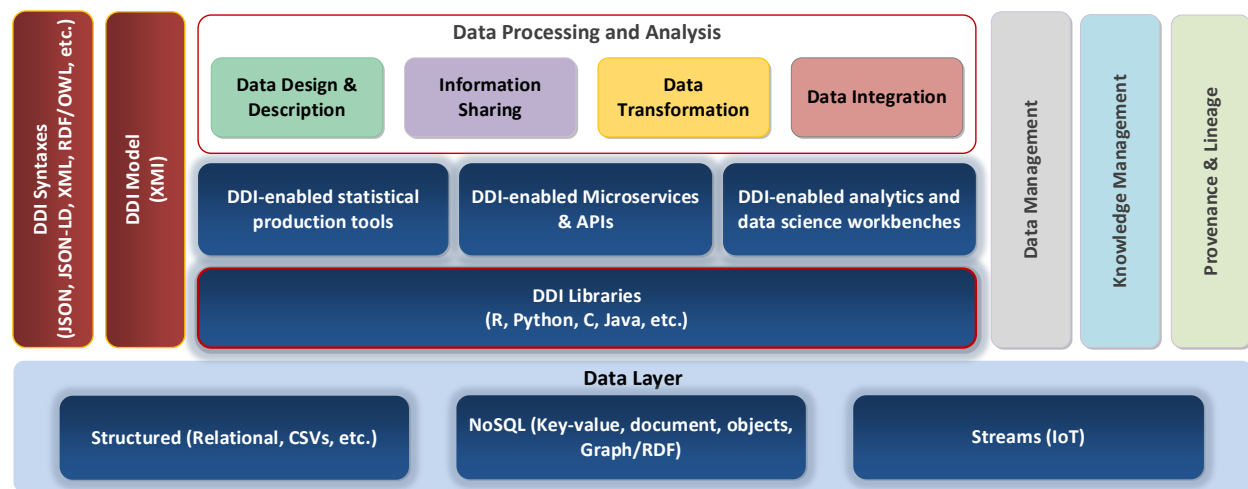
A vision for DDI in a research infrastructure

The DDI suite of products consists of multiple specifications in the form of a UML model representation, i.e. XMI, and syntax representations, e.g. XML Schema, JSON-LD, RDF/OWL, etc. together with documentation in various forms. The specifications of the DDI products follow different architectures: DDI Lifecycle, for instance, is XML Schema-driven, i.e. all syntax representations are derived from XML Schema constructs, which functions as the de-facto model; DDI-CDI, in contrast, follows a model driven architecture approach¹, in which a conceptual, platform-independent model (PIM) captures the high-level entity-relationship specification and a number of platform-specific models (PSM) describe the intricacies of the different syntax representations. Both specifications can describe a data layer, consisting of various types of data, from very structured to NoSQL and streams, together with the concepts it represents and the various processes involved in data production, integration and sharing.

In order to produce the building blocks of a future global research infrastructure, we need to make the DDI products into an implementation reality. To that end, we envision a rich framework and ecosystem of reusable and shareable libraries, micro-services and tools, all built around a community of vendors and open source developers that can provide a marketplace of evolving components, services and protocols, and easy integration with other specifications and standards, most notably SDMX, DCAT and PROV. This extended FAIR ecosystem will then be leveraged to implement data production solutions and advanced analytics, including Big Data and machine learning.

This vision addresses mainly two DDI Alliance strategic actions: (1) high-level goals and (3) Improvement of interoperable and distributed DDI infrastructure for use and reuse of DDI resources. It will also facilitate the seamless integration of content from existing and future DDI registries and repositories [as per action (4) Registries/repositories] into a global data production infrastructure.

The next diagram shows an overview of the implementation stack.



Such an ecosystem can be initially enabled by a rich DDI libraries layer (center). These libraries should span both lifecycle and CDI. This project will tackle the definition of a generic framework for both DDI versions and will focus on the development of libraries for a meaningful fragment of CDI.

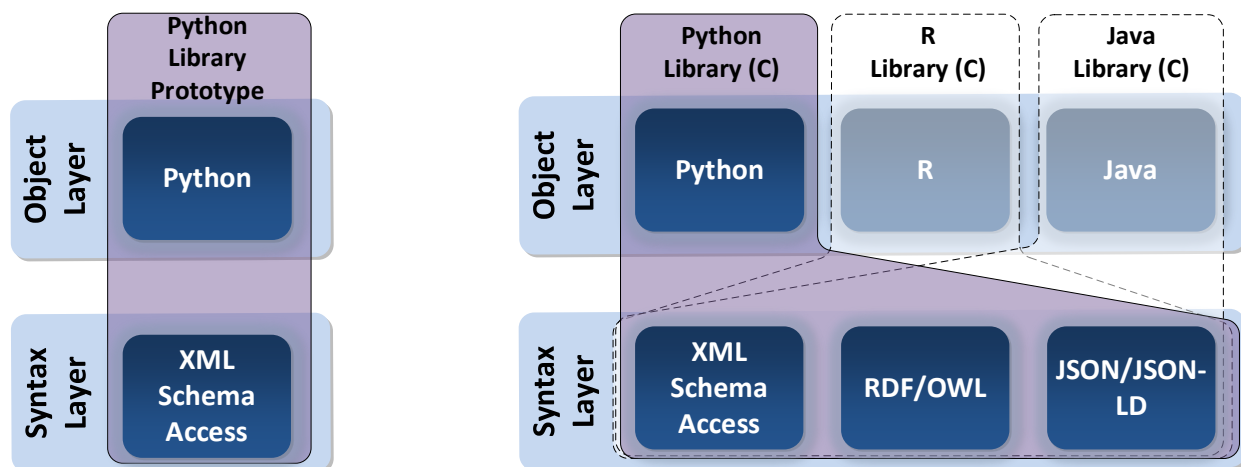
¹ <https://www.omg.org/mda/>

DDI libraries development

We need to provide libraries in a variety of languages, e.g. R, Python, Java. These libraries will map the syntax representations of DDI to constructs in the respective languages. These high-level languages share a lower-level development language, which is C. The idea is to create a common, generic C/C++ library that deals with the serialization and deserialization of DDI objects and then creates the specific objects and methods in the respective higher-level languages. This way we can use the same code base to handle the common functionality, e.g. reading and writing syntax representations, on top of which we'll have multiple code packages for the language-specific functionality, e.g. creating and maintaining language constructs.

In order to get there, we first need a clear design of the necessary language constructs. These constructs consist basically of classes and methods. They need to cover not just the DDI model but also the linkage to the data itself – e.g. integrating data and metadata in a data frame. In addition, they need to provide higher-level methods capable of manipulating composite objects not just individual ones – e.g. some entities, like classifications, are composite objects spanning multiple classes that usually need to be managed together.

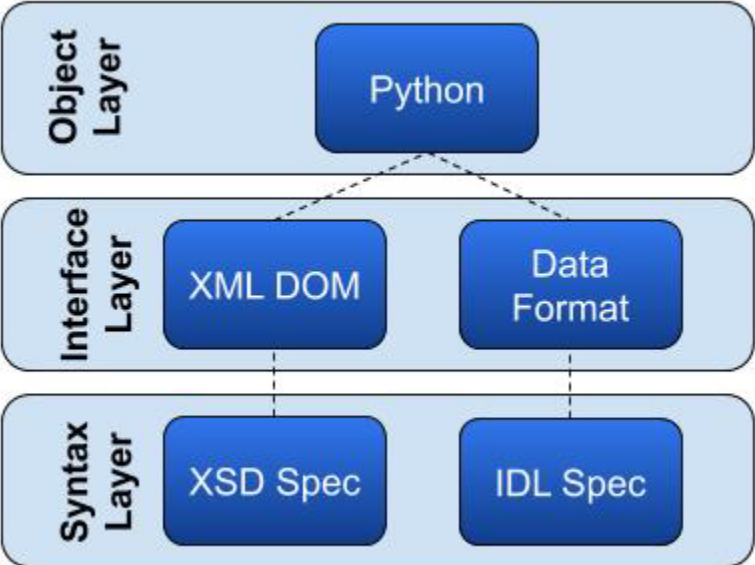
To produce such a design, we are proposing to use a kind of domain driven design² approach in which the main set of classes and methods are defined using one specific prototyping language, e.g. Python. This requires domain experts, i.e. DDI modelers, working closely together with language experts, e.g. Python programmers. The result of this exercise is a prototype implementation that can then be used by a C/C++ developer to implement the DDI libraries.



The object layer domain driven prototype provides higher-level functionality suitable for defining library requirements. However, the object model does not address data serialization and deserialization, storage and interoperability across languages. We propose prototyping a data interface layer, in addition to the several model specifications. The model specifications allows for model validation, and the data interface

² <https://martinfowler.com/bliki/DomainDrivenDesign.html>

layer provides persistency and conversion to/from the object model. One approach for the data interface layer is to adopt a data format that implements an Interface Definition Language (IDL). IDLs allows the specification of messages in a language-and-platform-neutral way through defined schemas. Out of the schemas, data serialization and deserialization classes for a variety of programming languages can be generated. The generated classes guarantee data interoperability across platforms. In addition to the IDL, an XML data object model (DOM) can serve as a data interface layer for the XML schema access. Therefore, we provide multiple model specifications for syntax access and multiple data interface layers for data access. Persisted data can be validated using the higher-level object model, and independently validation methods can be developed for the model specifications. Examples of IDLs include Google's Protocol Buffer and Flatbuffer, Apache Thrift, Apache Avro.



Appendix B

DDI Alliance Budget Requests for the FY23 - Relationship to the Scientific Plan

Provider: Dagstuhl Organisers

Purpose: The budget requested would fund the travel of some participants at the upcoming workshop at Schloss Dagstuhl in Wadern Germany, from 29 August through 2 September 2022, titled “Interoperability for Cross-Domain Research: Machine-Actionability & Scalability”.

Relationship to the Scientific Plan:

The activities and focus of this workshop align with the goals of the DDI Alliance as stated in the current Scientific Work Plan:

Text provided by Dagstuhl organisers:

From “II. Reachable Short-Term Goals for 2021 and 2022”:

7.) Promote the role of DDI in external projects like e.g. European Open Science Cloud (EOSC) and FAIR.

11.) Support and facilitate the following action items provided by the different working groups:

a. CDI

- o Collaborate on activities to implement and get feedback on the specification, in particular with data providers, RIs, EOSC and cross-domain case studies.*

From “IV. Long Term Vision for DDI Products and Processes”:

4. The Scientific Board will promote interoperability and collaboration with other metadata standards

The workshop will produce guidance on a coordinated set of core metadata standards (the “Cross-Domain Interoperability Framework” - CDIF) and how this can best support scalable FAIR implementation. These standards will support the development of technical services for both the social, behavioral, and economic sciences, public health, and official statistics, and the sharing of data and metadata among and between other domains.

The DDI work products will be a significant part of CDIF and the recommendations/guidance needed to implement it within the DDI community and beyond.

Provider: CDI Working Group

Purpose: Two separate budget requests from the CDI Working Group.

1. The first is for travel budget to hold an open workshop in the margins of the “Hotzone Week on FAIR” taking place during October, 2022 in Leiden in the Netherlands.
2. The other budget request is related to preparing and packaging the production environment developed by the CDI Working Group to develop syntax representations for use by implementers in the community.

Relationship to the Scientific Plan:

1. Goals as reported by the CDI WG:
 - o Promote CDI as a specification for supporting the use of FAIR Digital Objects, in line with the emerging CDIF recommendations
 - o Gather input on alignment with other specifications related to the FDOF, including FIPs, FAIR Data Points, etc.
 - o Make connections and potentially recruit people with expertise in the FDOF and related specifications to participate in supporting the implementation and further development of DDI-CDI.
 - o From "II. Reachable Short-Term Goals for 2021 and 2022":

6.) Promote the development of technical DDI services

11.) Support and facilitate the following action items provided by the different working groups:

a. CDI

- o *Collaborate on activities to implement and get feedback on the specification, in particular with data providers, RIs, EOSC and cross-domain case studies.*

Provider: TC

Purpose: Two separate budget requests from the TC.

1. Implementation languages across the DDI Suite: Cross Working Group In-Person Meeting
2. In-Person Meeting of the Technical Committee.

Relationship to the Scientific Plan:

1. Text provided by TC:
 - Lifecycle 3.4 – Complete the move of Lifecycle to the COGS modeling base, testing of input and output for coverage and consistency. This will include testing multiple outputs (XML schema, RDF, JSON, UMI to begin with). ...
 - Align different product implementations over time - how does that work and what does it look like
 - Defining roles of individual products
 - o How products work together
 - o How advances/changes in one product affect other product development
 - o Role of products needs to be clear - use case driven rather than content coverage
2. Text provided by the TC:
 - Lifecycle 3.4 – Complete the move of Lifecycle to the COGS modeling base, testing

of input and output for coverage and consistency. This will include testing multiple outputs (XML schema, RDF, JSON, UMI to begin with). CURRENT STATUS: Evaluated input issues and are currently correcting that script. Output scripts accurately reflect stored content.

- o COGS as a processing tool has advantages for Lifecycle as noted when agreed on in 2019 including; auto generation of output structures based on translation rules from object descriptions stored in structured CSV file; ability to add new output formats as needed; ability to generate output and test new content as created;

- o Review implications of multiple outputs on modeling, incorporating discussions and approaches from the Moving Forward work where appropriate; this may require minor remodeling of some choice or sequence usage.

Provider: Training Working Group

Purpose: Three separate budget requests from the Training Working Group.

1. Funding for workshops (travels and fees)
2. Discount / waiver workshop fees (for DDI members)
3. Webinars

Relationship to the Scientific Plan:

1. Funding for workshops (travels and fees)
2. Webinars

Both from *"II. Reachable Short-Term Goals for 2021 and 2022"*

c. Training

- o Continue the development of online training resources.
- o Conduct training outreach activities as regular webinars, facilitate training on request, organize training sessions at workshop and conferences, and explore alternative outreach possibilities.
- o Increase/continue collaboration with CODATA to reach out to new communities of users

Provider: Statistics Canada

Purpose: In order to produce the building blocks of a future global research infrastructure, we need to make the DDI products into an implementation reality. To that end, we envision a rich framework and ecosystem of reusable and shareable libraries, micro-services and tools, all built around a community of vendors and open source developers that can provide a marketplace of evolving components, services and protocols, and easy integration with other specifications and standards, most notably SDMX, DCAT and PROV. This extended FAIR ecosystem will then be leveraged to implement data production solutions and advanced analytics, including Big Data and machine learning.

Relationship to the Scientific Plan:

Text provided by Statistics Canada.

This vision addresses mainly two DDI Alliance strategic actions: (1) high-level goals and (3) Improvement of interoperable and distributed DDI infrastructure for use and reuse of DDI resources. It will also facilitate the seamless integration of content from existing and future DDI registries and repositories [as per action (4) Registries/repositories] into a global data production infrastructure.

Provider: Scientific Board

Purpose: Two separate budget requests from the Scientific Board.

1. Physical meeting
2. Hackathon

Relationship to the Scientific Plan:

1. Strategical planning, Scientific Plan development
2. From "II. Reachable Short-Term Goals for 2021 and 2022":

4.) Plan the creation of a new software development group similar to the DDI Developers group in the past to promote DDI Tool development.

Appendix C

Policy on the Fund Balance - Proposal

- DDI Alliance is an organization financed by membership fees
- DDI Alliance goals according to the charter:
 - *The Data Documentation Initiative (hereinafter “DDI”) Alliance shares a commitment to meet worldwide requirements for publicly available standards and semantic products supporting the documentation and integration of social science data and other data for understanding the human condition.*
- A policy on the fund balance should exist
 - As **guidance for the Executive Board** on **how much money could be spent each year** and how much money should be available as reserves
- Guiding figure could be the **yearly revenue which is roughly USD 100,000.**
- The policy could say that ...
 - the money should be used to support work according to the goals each year and
 - some **reserves** should be available in the amount of **100-150% of the yearly budget.**
- Background: Reserves were steadily growing since 2017: from USD 166,121 to 314,872

Fund Balance Development

	2017	2018	2019	2020	2021
Total Revenue	98,074.00	111,500.00	100,500.00	97,500.00	97,500.00
Total Expenses	76,732.29	83,762.95	53,333.45	54,659.89	
Ending Funding Balance	166,121.71	193,858.76	241,025.31	283,865.42	314,872.00
Increase to previous year		17%	24%	18%	11%