

**THE DONA FOUNDATION**  
**BOARD OF DIRECTORS MEETING (July 1 & 2, 2020)**  
**SUMMARY MINUTES**

---

**Due to the COVID-19 situation, the Annual Meeting 2020 was held as a virtual meeting by videoconference.**

**Board Members present (by videoconference):** Robert E. Kahn (Chair), Gao Xinmin, Antoine Geissbühler, Rashid Ismailov, Ed Pentz, Adama Samassékou, Peter Wittenburg, Steve Wolff and Stefan Eberhard, as well as Ulrich Schwardmann and Xihui Zhen for the second day following their election as new Board members on July 1, 2020.

**Board Members not present:** Jean-Claude Burgelman, who was also elected as a new Board member on July 1, 2020, but was not able to attend the second day of the meeting.

**Also present (by videoconference):** Alexander Ntoko, institutional representative of ITU; Patrice Lyons, institutional representative of CNRI; and the DONA Foundation's Executive Director, Christophe Blanchi. In addition, guests who had participated in the DONA Coordination Group (**DONA-CG**) meeting, held on June 29 and 30, 2020, were present for most of the *Open Sessions* of the Board meeting at the invitation of the Chair and included, Giridhar Manepalli, Suchitra Manepalli and Sam Sun (CNRI), Ulrich Schwardmann, Tibor Kálmán, and Sven Bingert (GWDG), Jonathan Clark, Paul Jessop, and Matt Buys (IDF), Zhengang Gao, Michael Siu, and Xiaolong He (Coalition), Jean Claude Niyokwizerwa (RURA), Adeeb Albraidi, Abdullah Alkalbi, Maan Almajed, and Muath Alrumayh (CITC), Alexey Borodin, and Vita Parshuti, (Rostelecom), Lis Lugo (ITU); and Caroline Dupuis and Salomé Christoforou (DONA employees). In addition, Vanessa Deglise participated as rapporteur.

**Agenda:**

1. Opening of the Board meeting by the Chair
2. Brief Report from the Executive Director
3. Brief Comments by Board Members and Institutional Representatives
4. Report on DONA Coordination Group (DONA-CG) Meeting
5. Presentation on Interoperability
6. Liaison Agreement Status
7. DONA Role in Operating Type Registries
8. Discussion of Working Group on Evolution of DOIP for Information Sharing
9. Special Project on COVID-19
10. Documentation and Tutorials about the DO Architecture
11. Plans for Advocacy and Promotion of DOIP
12. End of Board Meeting

## 1. Opening of the Board Meeting

On notice duly given, a meeting of the Board of Directors (**Board**) of the DONA Foundation (**DONA** or **Foundation**) was held, beginning at 1:00 PM CET on July 1, 2020 and ending at 5:15 PM CET on July 2, 2020. Due to the COVID-19 pandemic, the meeting was held as a virtual meeting by videoconference.

The meeting began in *Open Session*. The Chair noted that all Board members were present and that there was thus a quorum present for doing business. The Chair thanked the participants for making themselves available to join the meeting despite the ongoing global COVID-19 crisis. He recalled for the participants that a Board meeting to be held by conference call had been scheduled for December 2019, but that a quorum had not been assembled and thus no meeting actually took place at the time.

The Chair further welcomed those participants from the DONA-CG meeting that preceded the Board meeting, all of whom had been invited to sit in as guests during the open portions of the meeting.

The Chair also noted the participation of the DONA Executive Director, Mr. Blanchi, as well as the two other employees of the Foundation. Mr. Blanchi then briefly introduced Ms. Christophorou, who assists him with the financial affairs of the Foundation, and Ms. Dupuis, who helps him collect and prepare technical documentation for DONA; and he thanked them for their valuable work.

All participants were informed by the Chair that the whole meeting would be recorded but that the recording would not be used for any other purpose than drafting the minutes; and no objections were raised.

The Chair then made a general comment about the current coronavirus situation and inquired about the status of the pandemic with respect to the meeting participants and how things were in their respective countries. Mr. Blanchi noted that the DONA personnel had started to work remotely as soon as the Swiss authorities had enacted the first emergency measures and recommended working from home, and that they had been able to continue working efficiently. For the time being, in-person meetings have obviously been put on hold.

Upon motion duly made and seconded, the Agenda, as circulated to the Board members before the meeting, was unanimously adopted, although some items were subsequently taken in a different sequence.

## 2. Brief Report from the Executive Director

### (a) *Activities during the past year:*

(i) *Involvement with EOSC:* Mr. Blanchi informed the Board that, thanks to Mr. Wittenburg, DONA had the opportunity to be involved in several outreach efforts of the European Open Science Cloud (EOSC), an initiative of the European Commission that aims to facilitate European scientists' access to scientific data, data processing platforms and data processing services; EOSC is interested in deploying a European-wide infrastructure for managing open scientific data. He explained that "FAIR digital objects" are at the core of EOSC's activities and that DONA wants to make sure that its interests are represented and that its technology is well understood. Mr. Blanchi thus attended various meetings on behalf of DONA and suggested that the Digital Object (DO) Architecture be considered as the underpinning technology for EOSC.

*(ii) Relationships with the MPAs:* Mr. Blanchi noted that, during the past year, he had maintained continued contacts with them and that DONA had very good relationships with the MPAs. A few technical and operational issues had arisen and were quickly resolved with no impact on the GHR. Since the DONA-CG Working Procedures were adopted at last year's annual meeting, Mr. Blanchi also pushed on creating working groups in order to address certain important technical issues; and two working groups were proposed to the DONA-CG, which he discussed later during the meeting.

*(iii) Creation of Technical Documentation:* Mr. Blanchi mentioned that he had been working with Ms. Dupuis on creating internal documentation to describe the DONA GHR Service operating procedures that Mr. Blanchi is using, as well as a detailed MPA GHR Service Operations Manual for distribution to the MPAs. In addition, tutorial documents are being prepared that would 1) explain the DO Architecture technology for members of the public and 2) provide operational guidance for technology providers.

*(b) Financial Situation:* Mr. Blanchi described the financial situation of DONA as stable. The Foundation did not receive any donations this year, although its expenses increased with the hiring of new staff. Nevertheless, having no expenses in connection with an in-person annual meeting in 2020 enabled the Foundation to offset it. Mr. Blanchi also indicated that DONA further reduced its expenses by, among other things, temporarily postponing work on the creation of tutorials.

*(c) Proposed Budget Outline (for later discussion):* Mr. Blanchi then briefly drew the Board's attention to certain items in the proposed budget for 2020-2021: As regards revenues, DONA hopes for new MPA revenues as well as donations. As for expenses, they should remain similar to those of the past year.

### **3. Brief Comments from Board Members and Institutional Representatives**

The Chair then asked the Board members for comments, if any, about recent developments.

Mr. Ismailov thanked Mr. Blanchi for his contributions and welcomed the creation of DONA-CG working groups, stating that it may now be a good way for DONA to move from theory to practice. In that regard, Mr. Ismailov mentioned a local project in Russia about tracking and tracing and noted that DONA could be the umbrella organization for this kind of project.

Mr. Wittenburg started by thanking the Executive Director who had provided useful inputs relating to EOSC discussions in Western Europe. In Mr. Wittenburg's view the DO Architecture technology was now facing two main challenges: (i) building such infrastructure was taking more time than it had initially been expected; and (ii) building such infrastructure was still a highly dynamic issue as there were many different suggestions and positions among the players. For Mr. Wittenburg, a DONA strength was that it was an island of stability in this dynamic environment.

Mr. Gao thanked the Executive Director for his report and activities for the Foundation. Mr. Gao stressed that DONA should endeavor to strengthen the promotion of the DO Architecture infrastructure in industrial areas. Mr. Gao also mentioned that he was very interested in DONA's involvement in EOSC and asked Mr. Wittenburg whether he knew about the Industrial Data Space as there was a strong focus on this type of initiatives in China. Mr. Wittenburg indicated that he was well aware of the Industrial Data Space and had been in touch with them together with the Executive Director. Upon inquiry by Mr. Wittenburg, Mr. Gao confirmed that he would be happy to invite Industrial Data Space representatives to Beijing for a meeting possibly in the form of a workshop.

Mr. Geissbühler outlined that the COVID-19 crisis had showed the importance of dealing in an agile way with complex and distributed information. He further observed that the pandemic had generated a tremendous amount of related scientific activity. In this context, he mentioned that open research data and science were essential and DONA's technology could play an important role. The Chair shared Mr. Geissbühler's enthusiasm about this perspective and observed with Mr. Geissbühler that use cases could be developed to further illustrate the applicability of the DO Architecture technology.

Noting Mr. Geissbühler's observations, Mr. Samassékou said that he looked forward to seeing how the DO Architecture would impact on the mentioned ongoing research projects.

Mr. Pentz noted that a lot of rethinking had been triggered by the COVID-19 crisis. He expressed hope that some issues brought forth by the Executive Director, such as the need for enhanced communication and outreach along with new funding, would be addressed by the Board as this would be essential for DONA to expand its activities.

Mr. Eberhard expressed that, in his view, the DO Architecture was different from the Internet in its early stage since there were a whole range of new technologies that were currently emerging simultaneously (or perceived as emerging simultaneously), such as blockchain, and that the most proactive and visible technology may win the race even if it was not the best technology on the market. Therefore, he was concerned that DONA could miss its chance in this race given that, to date, the public was not generally aware of what the Foundation offered, or what the available alternatives were. The Chair acknowledged the concerns raised by Mr. Eberhard and stressed that, in his view, there would not likely be a winner in this race in the short-term, but rather that things would continue to evolve over the coming years.

Mr. Ntoko was pleased to share that the ITU had been very active in dealing with the pandemic. Organizationally, ITU had been able to hold all its meetings virtually without having to cancel or postpone any of them. He mentioned that ITU operations had been able to leverage the DO architecture to interact with different ITU systems and continue providing access to ITU services to the ITU membership while most business is being held remotely. For him, this showed that many lessons had been learned; and this was a great opportunity for DONA to move the DO Architecture technology to the next level and provide solutions to the new reality that requires people to work remotely.

Finally, Ms. Lyons noted that there are many companies providing information management services to meet the emerging needs of the pandemic, and that such companies are likely to encounter issues with respect to interoperability. It was suggested that DONA should consider how best to engage with such companies to introduce the capabilities of the DO Architecture, in particular the DOIP specification, to enhance interoperability across information systems on a local, regional and/or global scale. As regards blockchain, Ms. Lyons recalled that, in the context of the ITU Focus Group on DLT, a block was defined as a digital entity (as described in ITU Recommendation X.1255). Implementation of the DO Architecture will be important as blockchain and similar technologies are deployed.

Later in the meeting, the Board discussed the possibility of DONA engaging in a Special Project to apply the DO Architecture to several important challenges posed by the COVID-19 pandemic.

The Chair thanked the Board Members and Institutional Representatives for their comments and insights and then asked the Executive Director to report on the recently held DONA-CG Meeting.

#### **4. Report on DONA Coordination Group (DONA-CG) Meeting**

The Executive Director reported that one of the key issues that had arisen from the DONA-CG Meeting (held on June 29 and 30, 2020) was the selection of MPA representatives as candidates for submission to the DONA Nominations Committee of the Board. According to Version 1.0 of the DONA-CG Working Procedures then in force, MPA Delegates were allowed to choose individuals from among the MPA Delegates, or sponsored by one or more MPA Delegates, with the names of those individuals to be submitted, pending their election by the DONA-CG MPA-Delegates, to the Nominations Committee of the Board as candidates for the MPA Representatives to the Board. An election was held on June 16, 2020 with the intent to have the MPAs vote to select two candidates, as it has been suggested at the last Board meeting. Three candidates were on the ballot, but, due to the two-thirds majority voting requirement specified in the DONA-CG Working Procedures, only one candidate was selected for submission to the Nominations Committee.

During the DONA-CG Meeting, a motion was proposed to have the MPA Delegates hold another vote, with the goal of designating a maximum of two additional MPA representatives as candidates for the Board. This motion was approved by all MPA Delegates. The outcome of the new vote was that only one additional candidate was selected for submission to the Nominations Committee and the other candidate did not reach the two-thirds majority. Based on this experience, the Executive Director noted that MPA representation on the Board was critical and that it was important for the Board to clearly convey to the MPAs what the Board's expectations were in terms of representation and composition of the Board.

The Executive Director then reported on several interesting presentations during the DONA-CG meeting, including one from the DOI Foundation in connection with smart buildings and a demonstration from CNRI on “DO Share”, which was very well received and showed the potential of the DO Architecture technology. There was also a very good presentation on the implementation of the digital object identifier (aka handle) component of the DO Architecture in an industrial track and trace application from Rostelecom. While it was originally intended as a proposal for a working group, in light of its focus on a specific industry and a specific implementation, it was decided to discuss the general issues raised in a more generic working group in the future.

The Executive Director reported on the other two proposed working groups: (i) a Type Framework Working Group; and (ii) a Working Group on Evolution of DOIP for Information Sharing. The purpose of the first Working Group would be to foster the creation of new types and operations within the infrastructure and to provide standard tools and recommendations that facilitate their development. The second Working Group would aim, in particular, to extend the set of operations that can be performed on a digital object, and investigate specific improvements of this technology. Both Working Groups were approved by the MPA Delegates; and it is expected that these two efforts will be launched later in the year.

Finally, the Executive Director mentioned that other interesting questions had been discussed by the MPAs, including the role that the DO Architecture could play in COVID-19 related issues.

#### **5. Presentation on Interoperability**

The Chair invited Mr. Giridhar Manepalli from CNRI to make a presentation on an application of the DO Architecture that was called *DO Share*. Such presentation, which had already been made during the DONA-CG meeting, was a peer-to-peer example of interoperability based on the DO Architecture.

Mr. Giridhar Manepalli played a 15-minute video, which showed how the DOIP could be used to share files in a local environment without any intermediary systems being required other than a local area network. For sensitive data or for reasons of privacy, this assumed digital object identifiers would have been allotted to the users involved in the sharing activity. The peer-to-peer information sharing works through a desktop application that runs in the background of a user's computer and only requires a network connection. Mr. Manepalli noted that the application provided a solution to privacy concerns, among others.

The attendees were very enthusiastic about the demonstration made by Mr. Manepalli. He explained that, from a technical standpoint, and if there were no interruptions in the implementation, CNRI would need several weeks to complete a first version of the software for release and to make the necessary licensing arrangements.

Mr. Ntoko was interested in knowing whether the code would be made available to DONA and also raised several data protection related questions. Mr. Gao also showed interest in the application developed by CNRI and asked whether it could be applied to IOT and used in the context of the industrial internet. Mr. Gao further asked whether the software, which was based on DOIP\_V2, used digital object identifiers (aka handles); and he also stressed that IP issues had to be clarified. Mr. Manepalli replied that the application, as currently being implemented did not directly apply to IOT, but could easily be adapted to fit IOT requirements, if desired. He said that the development had a more universal purpose and was developed with a view to allow a wide range of users (and not only IT experts) to get familiar with the DOIP technology.

## **6. Liaison Agreement Status**

Turning to Mr. Gao, the Chair inquired about the current status of the liaison agreement with ATSD. Mr. Gao informed the Board on ATSD's activities, which focused on building a general framework for the industrial Internet; and he explained that ATSD's main goal was to promote the DO Architecture in various areas, including, in particular the industrial Internet area. For these reasons, Mr. Gao said that he hoped that the Board would continue to follow and be supportive of ATSD's activities through the liaison agreement.

## **7. DONA Role in Operating Type Registries**

The Executive Director reminded the Board that, during its meeting, the DONA-CG had set up a *Working Group on Type Framework*. This Working Group would focus on defining what the type framework consisted of and would, for instance, define how types should be represented in the context of the DO Architecture: what minimum type descriptions would be required; and how types were searched and registered. Mr. Bianchi explained that the operation of a type registry by DONA would serve two main purposes: (i) demonstrate that the type registry works and that its integrity can be maintained; and (ii) provide for scalability. In response to a question raised by the Chair, Mr. Bianchi specified that the added value of a type registry was that it would allow for reverse lookup and enhanced search capability.

## **8. Discussion of Working Group on Evolution of DOIP for Information Sharing**

Mr. Manepalli briefly presented the purpose of the *Working Group on Evolution of DOIP Information Sharing* that had been set up by the DONA-CG. He explained that a main goal of this Working Group was to test how the DONA-CG could collaborate in order to shape the DOIP with a focus on sharing information. To this effect, the Working Group was hoping to receive feedback on the DOIP\_V2 from the MPAs and outside developers with a view to improve it.

## **9. Special Project on COVID-19**

Following up on Mr. Blanchi's report from the DONA-CG, and Mr. Geissbühler's suggestion that the DO Architecture and DOIP could be used as the underlying infrastructure for COVID-19 related projects (*e.g.* track & trace applications, serological passports, etc.), the Board discussed how best DONA should respond to the pandemic within its mandate. Mr. Wittenburg, Mr. Ntoko, and Mr. Wolff supported Mr. Geissbühler's idea and noted that the development by DONA of a Special Project on Covid-19 to help meet the information challenges posed by the pandemic could be helpful, and could operate as an inspiration for people to create their own software based on DOIP. Mr. Wolff added that DONA should probably go one step beyond issuing a paper or flyer on the technology and develop helpful tools and other software in this context because there is nothing like running code to inspire people.

Upon motion duly made and seconded, the Board unanimously approved that the Executive Director develop a short white paper describing the proposed Special Project, in collaboration with Mr. Geissbühler and his colleagues in the medical community, that would be based on DOIP; and it was requested that the white paper be submitted to the Board for review and approval before starting the Special Project.

## **10. Documentation and Tutorials about the DO Architecture**

At the request of the Chair, Mr. Blanchi outlined his plans for generating documentation and tutorials. Together with Ms. Dupuis, he had been collecting existing internal and external documents that relate to the DO Architecture (*e.g.*, use cases, examples of application of the DO Architecture), as well as preparing new material with the plan to have various series of documents targeted at different levels, including executive documents (short descriptions) and more technical documents, which would serve as a basis to illustrate how the DO Architecture works in practice and create tutorials.

## **11. Plans for Advocacy and Promotion of DOIP**

The Executive Director briefly presented the advocacy plan that he had prepared in response to a request made by Mr. Geissbühler at last year's annual meeting. The draft advocacy plan focuses on three general goals: (i) explain the DOIP technology to a wide range of people, including non-specialists, (ii) provide tools and documentation that help the developer community, and (iii) reach out to various communities (*e.g.* students at universities) that may promote DOIP through their uses of it. As highlighted by the Executive Director, the main difficulty is to explain the technology by presenting use cases in a high-level manner while accurately conveying the capability and flexibility of the technology. In terms of promoting the DOIP technology among students, Mr. Blanchi suggested that a summer internship program be put in place in collaboration with schools such as the Geneva University or the EPFL. Mr. Samassékou stressed the need to have the documents translated into other languages, in particular French.

## **12. End of Board Meeting**

The Board decided to hold its next Annual Meeting on July 1 and 2, 2022, tentatively, in Geneva on a face-to-face basis pending the mitigation of the ongoing pandemic. The Chair thanked all members for participating in the meeting. He noted that the videoconference format worked effectively, and he suggested that this kind of virtual meeting be organized more frequently to discuss important ongoing matters.