

REPORT

5th Meeting of the German Nagoya Protocol HuB Network (5. GNP HuB Stammtisch)

8 December 2021, 14:00-16:00 p.m. (online meeting)

The fifth regular online meeting of the GNP HuB Network, i.e. the “Stammtisch”, took place on the 8th of December 2021. This time, it was all about Digital Sequence Information (DSI) and the current state of international negotiations on the issue.

Welcome and project update

The meeting was moderated by Scarlett Sett. She introduced the agenda and gave a quick update on the project’s progress in 2021. The website has received over 3,500 visits since it was launched one year ago and the content continue to grow based on users’ feedback. Our podcast series called “Nagoya Bites” has 4 episodes, the network continues to grow, and the help desk consistently gets enquiries. The project was recently extended until September 2022!

Impulse presentations on DSI

DSI in the status quo & existing national legislation, Dirk Neumann, SNSB

This presentation started with general background information on DSI. During the intersessional period from 2019-2021, four scoping studies on DSI were commissioned. Study 1 and 4 looked at the concept, scope and terminology of DSI. These studies were the basis for the second Ad-Hoc Technical Expert Group (AHTEG) report. Depending on the final definition, DSI could cover Nucleotide Sequence Data (DNA and RNA), but also potentially protein sequences or metabolites. The 2nd AHTEG aimed at achieving conceptual clarity regarding DSI and they established that DSI can be categorized into 3 cumulative groups. Group 1 would only include DNA and RNA, group 2 would include proteins and epigenetic modifications on top of that and group 3 would even include metabolites and other macromolecules. The more inclusive the DSI-coverage gets, the more difficult it gets to keep these data connected to the original genetic resource and its geographic origin. It was then pointed out, that the current discussions around DSI focus exclusively on policy options but the decision what DSI actually is, is still unresolved. However, some countries already regulate DSI under their national access laws and developed their own definitions. There currently five main approaches to DSI regulation:

- DSI is linked to the accessed genetic resources and covered in PIC and MAT;
- DSI is regulated under domestic measures, either linked with access to genetic resources or independent;

- DSI is regulated independent from access, e.g. in case of commercialization;
- Benefit-sharing is required through direct or indirect measures;
- DSI is not regulated.

The EU Guidance Document on the scope of the EU ABS Regulation also contains information on DSI. In general, DSI accessed from public databases is considered out of scope of the EU Regulation. However, any contractual due diligence obligations relating to DSI from the provider country must be followed. Some journals also require data availability or benefit-sharing statements for publications.

Q&A and discussion

After the presentation, the moderator asked the audience: Have you had any experience applying for ABS permits where DSI was addressed or became an issue? For some participants, this was the case. One of them, for example, noted that the permit required that all research data, including DSI, be made publicly available after the research. Other participants noted that it can also be the other way around where publication in public databases is not allowed or only allowed in parts.

Latest developments in the international process around DSI, Thomas Greiber, BfN

The next presentation came from Thomas Greiber. He started by explaining how the discussions around DSI evolved, which was actually before the Nagoya Protocol was adopted. At the CBD COP/NP MOP in 2016, a majority of countries asked to pass a decision to define DSI as equal to genetic resources and therefore include DSI in the scope of the Nagoya Protocol. However, this was rejected by the EU and a number of other countries and instead it was agreed to start an open science-policy process towards the next COP/MOP to explore the relationship between DSI and genetic resources and the three objectives of the Convention on Biological Diversity (CBD). An ad-hoc technical expert group on DSI was formed and a scoping study was conducted. At the following COP/MOP in 2018, it was decided to continue the science-policy process in order to develop recommendations on how to address DSI in the context of the post-2020 Global Biodiversity Framework (GBF). Still, up until today there has not been a final decision on the matter. Because of the Covid-19 pandemic, the negotiation process is delayed and CBD COP 15/NP MOP 4 (initially scheduled for October 2020) had to be postponed. Online discussions have begun including the GBF open-ended working group, which started its third meeting in August 2021. Due to the virtual nature of the meeting, there could not be any real negotiations but simply discussions which brought forward possible elements of a draft DSI recommendation to the COP/MOP and a summary of areas of possible convergence and divergence. In-person negotiations will begin in March 2022 (pandemic-dependent).

The EU position on DSI was also presented. The EU wants a solution that preserves open access to DSI from public databases, that generates more benefits than costs, ensures legal certainty, and is adaptable to the requirements of other ABS instruments.

In the last part of the presentation, the different DSI policy options currently on the table were presented. They range from fully integrating DSI into the CBD and Nagoya Protocol, to having no Prior Informed Consent (PIC) and country-specific Mutually Agreed Terms (MAT), to introducing payments for access to DSI. In total, there are 11 options that have been proposed and are being discussed.

Q&A and discussion

One topic discussed after the presentation was which policy option is the most realistic and which compromises might be possible. It was pointed out that keeping the status quo is not really an option and fully integrating DSI into the NP is also very unlikely. A subscription model might be something that many countries can agree on and it is relatively easy to understand. Agreeing on a standard MAT at the international level without PIC also seems possible. Another question addressed how basic research would be treated if it uses publicly available DSI but there is no commercial output. Here it was stressed that the policy options are still very broad and need to be concretized, in the end there could for example be different MATs depending on the type of research.

Afterwards, there was a collection of keywords around the question “What do you think about a subscription model for DSI?” Most opinions on this were rather negative. Some people thought it would lead to high administrative efforts and would favor rich organizations. It was also seen as a barrier to research and problematic for developing countries. However, some people also found it understandable and could imagine paying micropayments.

DSI activities by the German scientific community, Amber Hartman Scholz, DSMZ

The last presentation of the day focused on the engagement of the German scientific community on DSI discussions. The DSMZ, in collaboration with the Global Genome Biodiversity Network, led a study on DSI databases and DSI traceability for the CBD Secretariat. It showed that DSI is not like genetic resources. There are 263 million sequences and over 10 million users. The largest providers of DSI are currently China, United States and Canada and not low-/middle-income countries although this could theoretically change in the coming years. There are countries that use more DSI than they provide, for example Belarus and Colombia. There are also cases where it is the other way around, countries such as Canada or Mexico provide more DSI than they are using. However, the global trend shows that DSI provision and use are generally strongly connected. Another trend is that most users use DSI from their own country or region. There are 40% fewer DSI-based publications from low-/middle-income countries compared to OECD-countries (see [Scholz et al.](#)). With these and more empirical data in mind, members of the DSI Scientific Network wrote a paper recommending that access remain open and be de-coupled from benefit-sharing in the case of DSI. They call for incentivizing national DSI contributions and strengthening capacity-building. Several other German institutions have voiced their opinions on DSI, such as the [German Academy of Sciences Leopoldina](#) and the [Leibniz-Research Network Biodiversity](#).

Q&A and discussion

It was pointed out that the DSI dataset is limited by some technical constraints. For example, the country of origin is not always provided by the data submitter and therefore these missing-country data cannot be included in the analysis. Some terms were also clarified again: the provider of data is the country where the genetic resource from which the DSI was produced came from, the user is the researcher(s) putting the sequences into a database. These users doing the sequencing, of course, need ABS permits, if required.

Short survey

Before ending the Stammtisch, attendees were asked a few questions to help project planning for the next months. For future network meetings, participants were particularly interested in hearing about benefit-sharing in practice and ABS experiences from different regions. There was also interest in specialized group discussions for ABS compliance officers or legal experts. Lastly, there was a high interest in an in-person one-day ABS networking workshop in summer 2022. On the question of how the pandemic has changed the participants field research and ABS permit needs, some people said that there were no changes while others noted that they have been doing less or no field work.

Summary and outlook

This Stammtisch gave an update on the current developments around DSI and gave room for informal exchange. It is quite clear that there are many open questions surrounding the issue. The next Stammtisch is planned for spring 2022. We look forward to seeing everyone there.