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## **GOALS OF THE DIDAT PROJECT**

In September 2017, 17 high-profile European scientists met at a proposition-based expert roundtable. The challenge was to identify unintended side effects *(unseens)* [1] of the digital transformation. The propositions and discussions focused on critical developments and vulnerabilities for civil society, the economic and the political system. At the end of an intense discourse<sup>1</sup>, the participating experts concluded that the *"ownership, economic value, access, and use of digital data"* are the most basic, important, and presumably least-understood issues related to *unseens* of the digital transformation. Thus, the identification of vulnerabilities related to *unseens* and the development of strategies for mitigation and adaptation in order to cope with *unseens* are the main priorities.

Against this background, the project Digital Data as a Subject of a Transdisciplinary Process (DiDaT) aims to contribute to the responsible use of digital data. The key goals of DiDaT are:

a) To launch a *targeted interdisciplinary process* (see Fig. 1, upper part) that identifies, analyzes, and creates scientific know-ledge from various disciplines that may help to understand the constraints of digital data and develop strategies for its responsible use (see Fig. 1, upper part). We expect new questions, insights, and lines of research to develop from this process.

- b) To initiate *a multi-stakeholder discourse* (see Fig. 1, lower part) for identifying unintended side effects and to discuss the potential vulnerabilities of stakeholder groups in a kind of protected discourse arena. This process should help to mitigate unintended effects through the behavioral changes of actor groups and the development of appropriate policies by decision makers.
- c) To connect the targeted interdisciplinary process and the moderated multi-stakeholder discourse by organizing a process of mutual learning that utilizes the power of scientific knowledge and that of experiential and practical knowledge.

The goal of this process is the development of *socially robust orientations on strategies and societal processes for a responsible and sustainable use of digital data.* These socially robust orientations should serve stakeholders, consumers, industry associations, and public institutions but – before all – democratically legitimized decision makers whose role it is to make decisions regarding generating and using digital data.

The essence of the DiDaT process is to generate a deliberative (i.e., a reflected, carefully balanced, multiple-perspective) approach to the management of vulnerabilities. Transdisciplinary processes, as described in this brochure, are an ideal methodology for attaining these goals.



<sup>1</sup> The expert round table was based on 44 propositions on unintended side effects (unseens) of the digital transformation. These propositions covered 10 perspectives by experts over a wide range of scientific knowledge. The discussion revealed that none of the identified unseens could be addressed from one single disciplinary perspective. This observation constituted one important rationale for constructing a targeted interdisciplinary process. The following perspectives have been subjects of the construction of perspectives: industrial change, economic change, environmental systems, social and neuro-psychology, genetics, big data analytics, cyber security and warfare, ethics and digital global change, and sustainable development.



#### Figure 2:

Simplified, we consider three groups of actors who participate in a transdisciplinary process. We distinguish between the science community (upper time line), legitimized decision makers (lower-right time line), and the public at large (lower-left time line). The public at large includes all stakeholder groups that are interested in, responsible for, or concerned about the topic of the responsible use of digital data. All three groups are surmised to follow different interests and agendas. The main task of the science community is to produce knowledge and theories as a public good; these are legitimate decision makers who can be commercial actors (for instance, IT or other commercial companies) or public actors. The public at large includes a broad spectrum of stakeholder groups ranging from individuals and households to commercial lobbying groups and governmental institutions. These groups are expected to have specific and often-diverging interests. The DiDaT project (1) has been initiated by scientists. In the initiation phase, representatives from key actor groups of science and civil society and two experienced scientists will build the co-leadership of the project. The initiation phase will end with a first stakeholder conference (2). This conference will serve to reflect which stakeholder groups should be included and how the suggested methodology of mutual learning might be improved. The core phase of an estimated three to six months (3) demands the building of a protected discourse arena. This will help to develop trust, groundbreaking new ideas, and commitments that are necessary for mutual learning and joint processes. The core phase will end with a first communication of socially robust orientations to the public. Given the experience with large-scale transdisciplinary processes, the preliminary results have to be subjected to a scientific analysis on consistencies, feasibility costs, feasibility, and other factors, as well as a deliberative process that allows stakeholder groups to supplement, refine, and improve the orientations developed in the core process. The post-core phase process (4) serves to produce a comprehensive white paper on responsible data use, which may then be used by the legitimized decision makers for sustainable decisions and for science as a foundation for developing proper research.

# BENEFITS OF TRANSDISCIPLINARY PROCESSES

Transdisciplinary processes addressing challenging, societally relevant, and contested problems have been successfully applied on local, national, and global levels. They are characterized by collaborative and/or participatory processes that enable an efficient, adequate, reflective, and reflexive integration of knowledge from science and practice. The processes contribute to a better understanding of complex, societally relevant problems that are not well understood (i.e., ill-defined or intractable).

Transdisciplinary processes are designed with the following aims:

- a) to promote a holistic, perspective overarching consideration among all actor groups that allows for joint problem understanding and problem representation;
- b) to generate mutual learning on interactions of different phenomena and problems, thus allowing for a shared under-standing of context;
- c) to target shared views and agreements on the relevance and priorities of different issues and their impacts;
- d) to develop orientations on potential strategies and interventions for how to cope with identified problems in a constructive, effective, efficient, and fair manner;
- e) to include a first appraisal of the conflicts and questions of distributional justice that are linked to different intervention strategies;
- f) to provide mitigation strategies for actual disadvantaged or potential losers of transition and intervention processes; and
- g) to initiate a process of reflection on the normative constraints and the implications of orientations and potential solutions.

The added value of transdisciplinary processes emerges from integrating state-of-the-art scientific knowledge with experiential knowledge (and in its ideal form, experiential wisdom) from practice and from a pluralistic view on the roles, values, and interests of certain actor stakeholder groups. This is a basis for implementing intervention and mitigation strategies based on well-organized transdisciplinary processes; these processes run successfully only if certain constraints are addressed. All participants must be willing to accept and follow certain rules. Box 1 includes the principles and rules for transdisciplinary processes that have been developed in the course of 50 large-scale transdisciplinary projects for - in many cases - highly controversial topics (e.g., identifying promising and necessary decision processes that are accepted by the public and allow for developing solutions to cope with nuclear waste in Switzerland; what intervention strategies on climate protection should look like in Baden-Wurttemberg). The principles and rules that will be applied in the DiDaT project and the early start-up phase and will be negotiated and agreed upon by all participants in the startup phase (see Fig. 2).



#### Box 1: Principles of (ideal) transdisciplinary processes

The DiDaT project will refer to the following principles:

- Co-leadership and joint responsibility for the process and its results by two representatives of science (i.e., two distinct experts from engineering and social sciences) and two practitioners (one from industry and one from an NGO)
- Equal appraisal of high-quality knowledge from practice and from science
- Accepting the otherness of the other: The roles, values, and interests of different interest groups and disciplines are seen as variable contributions for finding socially robust solutions
- Joint problem definition (in particular, agreeing on what questions will be dealt with to what extent and what questions may be excluded or receive only marginal attention); joint goal formation and assurance that both science and practice will benefit from the transdisciplinary process (this calls for including representatives of all subject-oriented stakeholder groups); the development of a targeted interdisciplinary discourse when integrating scientific expertise and methodologies in a process that allows the inclusion of experiential knowledge from practice/society
- Mutual learning on an equal footing between science and society when reflecting and acknowledging the different roles of science and practice and the different types of knowledge
- The joint construction of *socially robust orientations* in (economically) precompetitive questions
- Exclusion of day-to-day political topics and instead focusing on the development of a common understanding of the situation and the problems that may result in a constructive discourse on the foundations of identified problems and of options for coping with them; orientations instead of direct (political) recommendations by presenting options for interventions and their respective potential impacts (impact X will result if A occurs instead of B); the generation of a protected discourse and learning arena, which requires that all participants follow rules of internal and external communication. These rules should allow for thinking outside the box and formulating preliminary ideas or thought experiments. Participants must be guaranteed that no other members will cite or refer to preliminary ideas "which are generated in the learning process." Therefore, by signed agreement, members must demonstrate their willingness to follow these rules (which may be interpreted as bylaws of a sort and an extended Chatham House Rule). There is also a set of compulsory rules related to the time frame in which what types of results can be published (externally communicated) in what form after what release process
- Sponsoring instead of contract-based research (at least in the main phase). This is seen as a prerequisite by which all participants may share and promote all the results and take ownership of the transdisciplinary process
- Facilitation of the process, i.e., the different discourse processes, research and learning processes, operative process, and the methodological frame are managed by Professors Ortwin Renn, IASS Potsdam, and Roland Scholz, IASS Potsdam and Danube University Krems. The facilitators are also initiators of the DiDaT project. The facilitators take responsibility for the organizational and financial constraints of the process and the election of the co-leaders. These activities must be accomplished from a pluralistic perspective (see bullet point 3, Accepting the otherness of the other). The leaders and facilitators take joint responsibility for the deliberative process and the communication and justification of the results to the public.

## PROJECTED RESULTS OF THE DIDAT PROJECT

In its current stage, the DiDaT project focuses on three products:

- a) A structured list of critical, unintended side effects of the digital transformation on sensitive stakeholder groups: The identification, description, and analysis of unintended side effects<sup>2</sup> (unseens) are a primary focus. A first analysis should describe the significance, the societal impacts based on normative values, and the goals related to different stakeholder groups. The methodology of a transdisciplinary process should allow the identification of vulnerabilities that have not been identified or adequately discussed and understood up until now. Based on this, socially robust orientations regarding the political processes, legislative and executive rules, communication and learning processes, and agreements that particular stakeholder groups need in order to cope with these vulnerabilities will be described in a comprehensive manner.
- b) **Self-declarations** The DiDaT project starts from the assumption that legislative regulations with respect to using digital data are either incomplete or call for an adjustment to the basic principles of sustainability. Self-declarations are an important means for promoting implementation and efficient execution. Against these impacts, self-declarations of the ICT, automotive, and railways transportation industries are considered important components for successfully developing a "best practice" in regard to the use of digital data.
- c) **Principles of digital data ethics** The discussion and analysis of the contributions to the European expert round table on a sustainable digital environment revealed that ethical principles related to the use of digital data have not yet been sufficiently discussed and implemented. The experts agreed that ethical principles play a crucial role in any orientation toward a sustainable practice for the use of digital data. Against this background, special attention will be given to developing options for what ethical principles [4] might look like and how they might become subjects for governing the handling of digital data.

## THE ROLES OF FACILITATORS

Ortwin Renn and Roland Scholz are the co-facilitators of the DiDaT project. In the frame of transdisciplinary processes, the role of facilitator includes the *planning, structuring, supporting,* and *reflecting* of the whole discourse process and of the products of this process. *Planning* comprises laying the foundation required for a successful transdisciplinary process. This includes the identification of key persons who support and participate in the process as well as the acquisition of financial means. *Structuring* in this context means that the facilitators, together with the leaders and other key persons for the project, design rules of communication, research, and participation so that a deliberative discourse can take place. *Supporting* means that the facilitators take responsibility for the operative management – a sound, feasible methodology that allows for inte-

grating and relating knowledge and interests from science and practice and for acquiring sufficient financial funding. *Reflecting* calls for properly deliberating the normative goals and values that initiated the process and motivated participants (here reflecting goes beyond the mere cognitive level and includes the motivations and drivers involved, this is sometimes acknowledged by differentiating between reflective – which restricts to the cognitive – and reflexive which takes a broader view and what is meant in this place). The rules of Box 1 will play an important role in developing, promoting and reaffirming consensus, and finally ratifying these socially robust orientations among the leadership and participating stakeholders of the DiDaT project.

<sup>&</sup>lt;sup>2</sup> What domains and vulnerability spaces will be focused and which ones (e.g., public administration) not will be discussed and decided in the course of the project.

#### Science as a public good

Within the transdisciplinary process of the DiDaT project, both the knowledge produced and the scientists participating in the process and leadership are considered a public good. In Germany, the vast majority of scientists undertaking research are employed at public science institutions (which are widely financed by public funds and/or are required to follow the principles of research). The term "public good" means that scientists are expected to serve all stakeholder groups, insofar as they argue and act within the frame of the national (i.e., in case of the DiDaT project the German) constitution and human rights. The idea of a transdisciplinary process is that science is not only transferred to society but also that a process of *mutual learning* between science and society takes place regarding how digital data might be handled by different actor groups.

Together, the facilitators, Profs. Renn and Scholz, have more than 25 years of experience with a large number of transdisciplinary and/or participatory processes. The primary goal of the facilitators is to provide the prerequisites for an efficient, trustful, targeted, and creative collaboration among key representatives from science and practice. These prerequisites or constraints should allow for a collaborative process in which key questions, topics, and focal points are defined in a manner that results in beneficial mutual learning processes; these will be subject to the work of subgroups; the aspects dealt by these subgroups are also called facets, subsystems, focal points (see Fig. 4) and will be finally defined in the preparation phase. Given the experience of large-scale transdisciplinary processes, these subgroups will also be co-led by scientists and practitioners and supported/coordinated by professionally trained facilitators of transdisciplinary processes. In a way, these facilitators may be considered operative managers of the transdisciplinary processes. Facilitation and operative management will be supported by a group of scientists and administrators at IASS and Danube University Krems (Austria).

### MAJOR STEPS AND SCHEDULE OF THE PROJECT<sup>3</sup>

#### 1. Initiation phase and system model



<sup>3</sup> You may find a detailed description of the different stages of a transdisciplinary project in reference [5]

### 1.1 Construction of a first system model

### Keywords: Types of data; data security from the perspectives of technology, law, and ethics; sensitivity of data from the perspectives of users and regulators

In a first step (see Fig. 3), the initiators and facilitators of the DiDaT project (Renn and Scholz) will launch the construction of a system model of stocks and flows of data. This system model links the classification of digital data (including its generation, storage, and transfer) to stakeholder sensitivities. This digital data-technology and -transmission-based model allows us to illustrate technical, legal, and social aspects of security and stakeholder vulnerabilities. Steps 1 to 3 (see Fig. 1) are seen as representing an important contribution for developing a joint problem representation among scientists and representatives of stakeholders. This system model and a first identification of stakeholders are also needed for defining the system boundaries.

### 1.2 Initiation of a multi-stakeholder discourse

The election of the co-leaders from science and practice, the identification of members of the steering board, and a first stakeholder conference are the aims of Step 4 of the initiation phase. The four co-leaders from science and practice will take responsibility with respect to goals, contents, and products of the project. The (science) co-leaders and the facilitators will design and initiate a targeted interdisciplinary process (see Fig. 1) and motivate high-profile scientific colleagues to participate. Likewise, the main role of (practice) leaders and facilitators is to motivate representatives of key stakeholder groups to participate in a protected discourse arena and to financially support the DiDaT project with the acquisition of public and private funding. In addition to the four leaders and two facilitators, a steering group of five to seven experienced practitioners and five to seven scientists comprises the leading board of the transdisciplinary process.



Figure 4: (Planned) Organizational chart of the DiDaT project The initiation phase will end with the first stakeholder conference. This conference should provide the first formulation of a guiding question (i.e., of the specific goals and system boundaries) and of the rules of the transdisciplinary process. Both products will be subjected to a discussion and agreement process (German: Vernehmlassung) among the stakeholder groups.

### 2. Preparation phase

### 2.1 Start-up phase

Based on the outcomes and orientations of the first stakeholder conference, the leaders and facilitators initiate a process for:

- consensus building with respect to the goals and rules of phases 2 and 3;
- articulating a guiding question in writing that has been discussed and is acknowledged and accepted by the representatives of the key stakeholder groups;
- identifying subgroups to work on subsystems, facets, focal points (see Fig. 4) that allow for identifying unseens and stakeholder vulnerabilities with respect to digital data in relevant societal domains. These subsystems or facets are also called vulnerability spaces;
- defining goals, standards, and system boundaries of the discourse and research process;
- endorsing/confirming the project leaders and facilitators of the subproject by the participating representatives of stakeholder groups and participating scientists.

The preparation phase will end with a second stakeholder conference. The aims of this stakeholder conference are to define the goals, processes, and products of the transdisciplinary process in a consensual manner.

### 2.2 Planning phase

The planning phase focuses on the methods and organizational structure that facilitates knowledge integration. Additionally, the roles, methods of public communication, etc. are defined in detail. The planning phase ends with a detailed project plan that has been agreed upon by the leaders after an extensive process of discussion, feedback, and acknowledgement with all relevant stakeholder groups.

A detailed descriptions of the steps and challenges of a transdisciplinary process is described in [4].

#### 3. Core phase

The different subprojects, each one including 12 to 20 representatives from science, business and industry, politics, and civil society, begin their work identifying unintended side effects (unseens), or known and hypothesized vulnerabilities of (sensitive) stakeholder groups. Based on these orientations, strategies for coping with these vulnerabilities will be designed. There will be at least two sessions including the whole subgroup working on one facet. Intermediate activities are led and facilitated by the co-leaders of the subgroup. This phase calls for strict adherence to the rules of communication.

The core phase will end with a two-day plenary session, which presents the first (preliminary) results of the subgroups (subsystems, facets) and the first integrative statements on courses and system constraints allowing for the identification and sustainable management of emerging unseens. The plenary session ends with a public meeting to inform the public and the media.

#### 3. Post-processing phase

The following activities are subjects of this phase:

- elaboration of the preliminary results of the stakeholder conference;
- presentation of the results and products in discursive processes and meetings for the participating stakeholder groups from business and industry, civil society, politics, and other interested groups;
- publication of the results in a white paper as well as in scientific and popular journals and media;
- coaching for initiatives and follow-up projects that emerge from the DiDaT project; and
- the reflective evaluation of the project, focusing particularly on the question of which stakeholder groups could represent their interests and in what manner.

The organizational structure of the DiDaT project is presented in Figure 4.

# ADDED VALUE OF THE DIDAT PROJECT

A transdisciplinary approach may provide much more value than common forms of science-practice collaboration. Transdisciplinarity goes far beyond (one-way) knowledge transfers. A transdisciplinary process begins with the creation of a joint problem understanding. Thus, in a first step, stakeholders' specific views on certain issues and problems are extended by gaining access to other actors' interests, knowledge, values, and perspectives. This mutual understanding usually allows for a departure from established conflict lines; fictitious, biased views on conflicts; and ritualized exchanges of argumentation and prejudices. Conflicts will not disappear but may be redefined when the discourse opens up an opportunity to transfer from conflicts to shared interests. A transdisciplinary discourse will also help to acknowledge uncertainties in knowledge, diverging interests, and conflicting goals and values [6]. The work in the core phase will be supported by various methods that allow participants to measure conflict and dissent among stakeholder groups, to discuss advantages and disadvantages of different options, and to demonstrate benefits and rebounds from certain rules of dealing with digital data.

Transdisciplinary processes depart from plug and play solutions and quick fixes but focus on the development consistent, beneficial, and improved pathways to reaching solutions. Such pathways are also known as socially robust orientations. Socially robust orientations allow decision makers to adapt to specific constraints and trade-offs made in the final decisions. The specific solution or solutions that will result are the responsibility of democratic, legally authorized decision makers and must acknowledge the specific contexts in which the decisions are made.

Transdisciplinary processes are not launched as substitutes for democratic decision processes but rather to support such processes by better incorporating subject-related scientific, political, and ethical perspectives [7]. The DiDaT project has the potential to help decision makers from politics and science cope more effectively with unexpected side effects resulting from the ownership, use, and acquisition of digital data. The key idea of transdisciplinarity is that coping with complex processes and transitions benefits from the integration of different types of epistemics (i.e., ways of knowing) and knowledge, e.g., scientific, concrete-situational, experientially based, or tacit knowledge that enables gaining insight into contextual constraints. The DiDaT project aspires to provide:

- successful processes that offer *adequately reasoned* products (German: 'fachlich fundierte Orientierungen'), accomplished with the help of science;
- orientations that are *understandable and useful for practice* (German: 'praxisgerecht'); this is why experiential/practical knowledge is needed;
- *functional orientations* (German: 'sachgerecht') that acknowledge the constraints of generating knowledge and the situations to which the knowledge is applied (this means that both the uncertainty and ignorance [i.e., incompleteness or absence of knowledge] included in science and practice are included);
- *rational orientations* (German: 'sinnvoll begründet') in the sense that consistent and plausible socially robust orientations (pathways toward solutions) are offered;
- transparent (German: 'nachvollziehbar') discourses and orientations including the most important trade-offs linked to suggestions;
- fair processes and outcomes, which are the reasons for incorporating all relevant stakeholder groups; and
- *reflexive processes* in the sense that the goals and values that are included or excluded in certain suggestions are identified.

The DiDaT project may also play an important role in the development of transdisciplinary research and processes on sustainable designs of governance related to digital data.



# LITERATUR

- [1] Scholz, R.W., Bartelsman, E. J., Diefenbach, S. Franke, L., Grunwald, A., Helbing, D., Hilty, L., Höjer, M., Klauser, S., Montag, C., Parycek, P., Prote, J.-P., Reichel, A., Renn, O., Schuh, G., Steiner, G., Viale Pereira, G, Unintended side effects of the digital transition: European scientists' messages from a proposition-based expert round table. Sustainability, 2018.
- [2] Scholz, R. W., & Steiner, G., *The real type and the ideal type of transdisciplinary processes*. Part I theoretical foundations. Sustainability Science, 10(4), 527–544, 2015.
- [3] Renn, O., A model for an analytic-deliberative process in risk management. Environmental Science & Technology. 33(18): p. 3049-3055, 1999.
- [4] Albayrak, C. A., Renn, O., & Teille, K., Leitlinien für das menschliche Handeln in einer digitalisierten Welt. HMD Praxis der Wirtschaftsinformatik, Heft 313, DOI 10.1365/s40702-018-00450-0, 2018.
- [5] Scholz, R.W. and G. Steiner, *The real type and the ideal type of transdisciplinary processes.* Part II What constraints and obstacles do we meet in practice? Sustainability Science. 10(4): p. 653–671, 2015.
- [6] Scholz, R.W., Environmental literacy in science and society: From knowledge to decisions. Cambridge: Cambridge University Press, 2011.
- [7] Renn, O., Zeit der Verunsicherung. Was treibt Menschen in den Populismus. Reinbek b. Hamburg: Rowohlt.



### Institute for Advanced Sustainability Studies (IASS) e.V.

The Institute for Advanced Sustainability Studies (IASS) conducts research with the goal of identifying, advancing, and guiding transformation processes towards sustainable societies in Germany and abroad. Its research practice is transdisciplinary, transformative, and co-creative. The institute cooperates with partners in academia, political institutions, administrations, civil society, and the business community to understand sustainability challenges and generate potential solutions. A strong network of national and international partners supports the work of the institute. Among its central research topics are the energy transition, emerging technologies, climate change, air quality, systemic risks, governance and participation, and cultures of transformation. The IASS is funded by the research ministries of the Federal Government of Germany and the State of Brandenburg.

### THE UNINTENDED SIDE EFFECTS OF DIGITALIZATION

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