transformative social innovation theory

# The Critical Turning Points database; concept, methodology and dataset of an international Transformative Social Innovation comparison

TRANSIT Working Paper #10, July 12th 2017

Pel, B., Bauler, T., Avelino, F., Backhaus, J., Ruijsink, S., Rach, S., Jørgensen, M. S., Kunze, I., Voss, G., Dumitru, A., Lema Blanco, I., Afonso, R., Cipolla, C., Longhurst, N., Dorland, J. Elle, M., Balázs, B., Horváth, J., Matolay, R., Wittmayer, J., Valderrama Pineda, A., Serpa, B., Rösing Agostini, M., Lajarthe, F., Garrido, S., Picabea, F., Moreira, J., Trentini, F., Bidinost, A., Weaver, P., Heimann, R., Skropke, C., Hoffmeister, K.L., Tawakol, D., Olivotto, V., Tsatsou, A., Zahed, Y., Moet, R., Zuijderwijk, L., Renema, J. and Kemp, R.

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 613169

## About TRANSIT:

TRANSIT is an international research project that develops a theory of Transformative Social Innovation that is useful to both research and practice. It is co-funded by the European Commission and runs for four years, from 2014 until 2017. The TRANSIT consortium consists of 12 partners across Europe and Latin America. For more information, please visit our website: http://www.transitsocialinnovation.eu/.

## About the TRANSIT working papers series:

The TRANSIT working paper series aims to accelerate the public availability of research undertaken by TRANSIT researchers. It presents (intermediate) research results that in whole or part are suitable for submission to a scientific journal or book. It also considers those articles, which are appropriate for submission to (scientific) conferences, workshops or symposia. Our intention is to provide early access to TRANSIT research.
http://www.transitsocialinnovation.eu/working-papers

## About this TRANSIT working paper:

This working paper presents the TRANSIT open-access online database on Critical Turning Points in Transformative Social Innovation. It describes the dataset contained in the dataset, and provides the theoretical-methodological context to the CTP data. It is collectively authored by all researchers involved in the development of CTP analyses.

## Suggested citation:

Pel, B., Bauler, T., Avelino, F., Backhaus, J., Ruijsink, S., Rach, S., Jørgensen, M. S., Kunze, I., Voss, G., Dumitru, A., Lema Blanco, I., Afonso, R., Cipolla, C., Longhurst, N., Dorland, J. Elle, M., Balázs, B., Horváth, J., Matolay, R., Wittmayer, J., Valderrama Pineda, A., Serpa, B., Rösing Agostini, M., Lajarthe, F., Garrido, S., Picabea, F., Moreira, J., Trentini, F., Bidinost, A., Weaver, P., Heimann, R., Skropke, C., Hoffmeister, K.L., Tawakol, D., Olivotto, V., Tsatsou, A., Zahed, Y., Moet, R., Zuijderwijk, L., Renema, J. and Kemp, R. (2017) The Critical Turning Points database; concept, methodology and dataset of an international Transformative Social Innovation comparison, (TRANSIT Working Paper # 10), TRANSIT: EU SSH.2013.3.3.2-1 Grant agreement no: 613169.

**Date:** **12/07/2017**

**Authors:** **Pel, B. et al.**
**Contact:** Bonno.Pel@ulb.ac.be

**Online link:** http://www.transitsocialinnovation.eu/resource-hub/the-critical-turning-points-database-concept-methodology-and-dataset-of-an-international-transformative-social-innovation-comparison-transit-working-paper-10-july-12th-2017

# Critical Turning Points database; concept, methodology and dataset of an international Transformative Social Innovation comparison

Authors: Pel, B., Bauler, T., Avelino, F., Backhaus, J., Ruijsink, S., Rach, S., Jørgensen, M. S., Kunze, I., Voss, G., Dumitru, A., Lema Blanco, I., Afonso, R., Cipolla, C., Longhurst, N., Dorland, J. Elle, M., Balázs, B., Horváth, J., Matolay, R., Wittmayer, J., Valderrama Pineda, A., Serpa, B., Rösing Agostini, M., Lajarthe, F., Garrido, S., Picabea, F., Moreira, J., Trentini, F., Bidinost, A., Weaver, P., Heimann, R., Skropke, C., Hoffmeister, K.L., Tawakol, D., Olivotto, V., Tsatsou, A., Zahed, Y., Moet, R., Zuijderwijk, L., Renema, J. and Kemp, R.

## Abstract

This working paper presents the TRANSIT open-access online database on Critical Turning Points (CTP) in Transformative Social Innovation. It specifies the contents of the database, comprising qualitative accounts of more than 450 'critical' episodes in the evolution of social innovation initiatives in 27 different countries. Providing the theoretical-methodological context to these data, the paper also describes the theoretical background of the CTP concept and the methodology though which the CTP accounts have been reconstructed through interviews with members of SI initiatives. The paper concludes with reflections on the open access CTP database as a knowledge infrastructure, discussing its significance in terms of mapping, dissemination and framing of social innovation.

## Keywords

Critical Turning Points, database, meta-analysis, methodology, open access

## Research Highlights

- The co-production and process dynamics of Transformative Social Innovation can be better understood through Critical Turning Points
- The Critical Turning Points online database gathers data from 27 countries
- Six key analytical dimensions of Critical Turning Points are distinguished
- Development of the CTP database helps to understand social innovation knowledge infrastructures

# 1 Introduction: a database for systematic Transformative Social Innovation insights

Practitioners, scientific observers and other parties with interests in social innovation (SI) have reasons to believe that it can contribute to social transformation, and to consider the attendant practical challenges of such Transformative Social Innovation (TSI) (see text box below for definitions). The TRANSIT project therefore confronts the following questions: *How, to what extent and under which conditions does social innovation contribute to transformative change? How are people empowered (or disempowered) to contribute to such processes? How to conceptualise and study transformative social innovation?*

This working paper addresses the latter question. It is focused on the issue of how to study TSI and presents the online and open access Critical Turning Points database as a concrete response to it. The database contains over 450 detailed accounts of important episodes in the development processes of SI initiatives of various kinds, and in diverse contexts: data have been gathered on SI initiatives in 27 different countries. Before going into its details, it is important to consider how such database construction is important for the development of systematic Transformative Social Innovation insights. As indicated by Bouchard & Trudelle (2013) and McGowan & Westley (2015), there is not only a need to clarify the notoriously ambiguous concept of social innovation, but most importantly there is also a need to move beyond anecdotal and fragmented evidence on single cases. Having recently consolidated our latest insights on TSI theory building (Haxeltine et al. 2017a) and having made use of the CTP database in the meta-analysis of case studies that informed this theory development (Cf. Pel et al. 2017a), the specific advantages of database construction have become clear.

- ***Social innovation:*** *changing social relations, involving new ways of doing, knowing, framing & organizing.*
- ***Transformative change:*** *challenging, altering and/or replacing dominant institutions in the social context.*
- ***Transformative social innovation:*** *social innovation that contributes to transformative change.*

*Haxeltine et al. 2017*

As a consortium, and as a group of passionate researchers of processes of innovation and social change, we have experienced how 'anecdotal' evidence is important but not sufficient. Even when the evidence is more than anecdotal and is providing rich descriptions of particular cases, it is still of limited value when dealing with a phenomenon as diverse as TSI. Throughout our theory development process (2014-2017), individual researchers have clearly developed their own insights into TSI through the particular case studies they have conducted or were particularly acquainted with. Accordingly, our theorization process can be seen as a sustained confrontation of imaginaries, projections and conceptualisations of TSI as they emerged from specific cases. TSI was thus simultaneously modelled along, for example, the institutional 'shadow systems' of Timebanks yet also along the Basic Income and Participatory Budgeting impulses towards Welfare State restructuring *from within*. Similarly it was simultaneously thought of as deeply ethically motivated and as pragmatic, as struggle for basic rights and as 'post-material' politics, as encompassing counter-hegemonic system shifts and as modest

pockets of local institutional changes. More generally, initiatives towards TSI display great differences in transformative ambitions and ways to realize those. The CTP database as a shared knowledge base has crucially helped us to break through the confines of these valid but partial fragments of evidence. In particular it has helped us move beyond the *misleading exemplars of TSI agency* (projecting motivations and strategies onto the much more diverse world of TSI activity), and *beyond misplaced universalism about TSI contexts* (neglecting how opportunities for SI activities and transformative impacts differ greatly across countries, regions and historical episodes).

This development of systematic insight beyond the singular example is arguably of use for both observers and practitioners of social innovation. The CTP database is therefore constructed as an online and open access repository of data, disclosing research findings directly rather than through scientific articles and working papers only. As will be detailed in further sections, the reconstruction of critical episodes and the development of timelines of SI initiatives has been a further measure to increase practical relevance. This commitment to open science and open access disclosure does come with certain obligations, however. Whilst the database itself provides only some of the background of the data presented in it, this working paper provides a more complete account. Describing contents, methodology and concept of the CTP database, this paper provides the crucial *context of the data*. This clarifies how the CTP files are not to be confused for 'factsheets' on SI initiatives, but reality constructions developed through certain procedures. Our contextualisation also raises attention to the fact that the CTP accounts are based on interviews with individuals agreeing to participate, and products of analysis efforts by individual researchers.

Having established the general rationale behind the CTP database and the aim of this paper to provide contextualization, the paper proceeds as follows. First we describe the CTP concept as a methodological response to our theoretical assumptions and to our commitments to practically instructive theory **(section 2)**. Next, we specify the dataset contained in the database, and the methodological procedures through which the CTP accounts have been developed **(section 3)**. After outlining the scope for database deployment in terms of theory development and reflective practice **(section 4)**, we conclude with a brief reflection on the online open access database as a knowledge infrastructure **(section 5)**.

## 2 Critical Turning Points: investigating co-production and process dynamics

The CTP database started from the general ambition to 'move beyond anecdotal evidence' through larger-N data gathering and meta-analysis, and to develop an online platform for this as a way to disclose empirical research to interested researchers and the wider public. This general idea evolved further along several considerations on the kind of theory to be developed (Cf. Haxeltine et al. 2017b) that came up in the course of the project. A first consideration has been that the originally envisioned survey-based research testing of propositions did not fit with our research philosophy (Cf. Pel et al. 2015). The quantitative verification and testing of theoretical hypotheses would yield only *suggestions* of hard evidence, we considered. Our relational understanding of SI resisted the decomposition of TSI processes into supposed factors and causes, our proto-theoretical propositions were not amenable to falsification or verification, and the large majority of researchers were attached to and well-trained in qualitative research. A second consideration that brought us from a survey-based to a 'quali-quantitative' approach to

our meta-analysis pertained to the relations with the SI initiatives under study. We anticipated that the Achilles' heel of surveys, i.e. the response rate, would be a serious challenge for the already apparent signs of SI initiatives overburdened with requests from researchers. As the filling in of standardized forms would make for a too distanced and uninspiring mode of data gathering, qualitative interviews were to be preferred as a rather dialogue-based mode of inquiry. Moreover, we considered that the systematized but compressed insights from survey research would easily become so 'dry', abstract and general that they wouldn't bring much practically relevant insights on the challenges of SI and the dynamics of TSI processes. In order to meet our commitments to developing instructive knowledge on empowerment and disempowerment (Cf. Avelino et al. 2017), the database would have to convey a degree of lived-through experience.

Through the above considerations on research philosophy and the kind of theory development to be supported, the database has become structured through the CTP concept. The concept, defined as *"moments or events in processes at which initiatives undergo or decide for changes of course"*, is arguably both easy to relate to and theoretically fruitful. Critical Turning Points are moments in time, phases or episodes in which the challenges that SI initiatives experience become particularly evident: their struggles to sustain themselves and gain access to resources, their attempts to strike a balance between the sometimes divergent strivings and motivations of members, their efforts to establish linkages with allies, their confrontations with dominant institutions, and their adaptations to changes in their immediate action field and the broader social-material context. As such, qualitative accounts of CTPs provide insights on two key aspects of Transformative Social Innovation (Cf. Haxeltine et al. 2017a,b):

1) **TSI as dynamic process.** TSI is, by definition, a research topic of change and transformation. In line with process-theoretical approaches in innovation theory and transitions theory (Garud & Gehman 2012), we have tried to take this basic given very seriously in our theorization. As moments of change, CTP accounts were gathered to gain empirical insight into the ways in which supposedly stable entities, actors and factors evolve over time. SI initiatives emerge, change course, merge, and sometimes collapse. Transformative impacts are achieved in certain 'periods of contention' or rather as results of slow, continuous change, and they may be either short-lived or enduring. Moreover, by gathering *series* of CTP accounts (Cf. next section), TSI theory can be developed in the form of typical phases and sequences of events.
2) **TSI as co-produced phenomenon.** We have defined social relation in terms of changing social *relations*, and TSI as processes in which social innovations challenge, alter and/or replace dominant institutions. TSI is therefore a collective achievement. CTP accounts typically provide insights into this, as such important events or phases tend not fall from the blue sky. As moments of change, CTP accounts elicit how SI initiatives themselves involve co-production between individuals, how SI initiatives co-produce in local or international networks of SI initiatives, how TSI is co-produced by SI initiatives and their interactions with dominant institutions and other entities, and how all these interactions are further shaped by changes in a broader social-material context. Showing the co-production of TSI, CTP accounts bring out why SI initiatives are important trailblazers of innovation but not the exclusive origins of it (Cipolla et al. 2017, Pel et al. 2017b).

The next section specifies how CTP accounts have been developed, and how this has led to a diverse dataset with CTP timelines on approximately 80 local SI initiatives in 27 different (mostly European and Latin American) countries. These SI initiatives belong to 20 transnational SI networks.

# 3 CTP database: data gathering, interpretation and dataset

This section circumscribes the contents of the CTP database. After describing the CTP timelines as the structuring principle of the database **(3.1)**, we specify the contents and underlying interpretive procedures of individual CTP accounts **(3.2)**. The last subsection provides an overview of the dataset **(3.3)**.

## *3.1 CTP timelines*

As a database meant to provide qualitative accounts of co-produced TSI *processes*, the CTP database is compiled of timelines of approximately (pending difficulties to access and permissions to publish) 80 SI initiatives. Each of these timelines contain 6 qualitative accounts of Critical Turning Points, as well several 'related events'. These 'related events' (Cf. section 3.2) are events that somehow evoked certain CTPs, or events that were evoked by them. The screenshot below displays a segment of these timelines, where the 'related events' (in black) indicate a series of developments at the science-policy interface in which an apparent political breakthrough in the Dutch basic income debate was - in certain aspects - a CTP (in orange). The 'read more' sign in the CTP box leads to the extensive qualitative accounts on it, of on average around 2000 words.

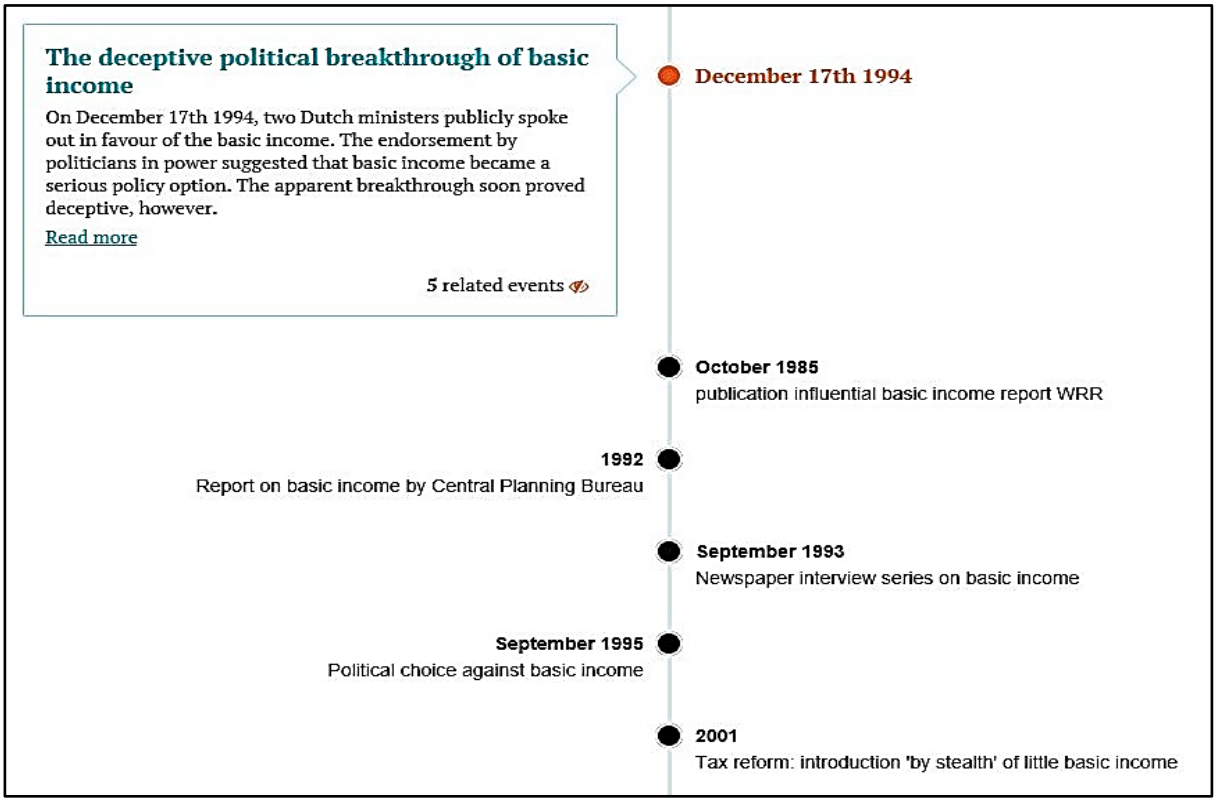


**Figure 1: Fragment of a CTP timeline**

### *3.2 CTP accounts: dimensions and interpretation*

The timelines are the most immediate displays of the kinds of turns of events that TSI 'journeys' may take, and of the ways in which co-produced TSI processes may unfold. The 'related events' enhance this immediate overview – yet the six CTP accounts contained in the timelines provide the more in-depth accounts of particularly important events and phases. All CTPs have been structured around the following 6 topics, which together elicit key aspects of TSI co-production processes (Cf. Pel et al. 2017a:14):

1) **Contents.** *What did this CTP consist of, and when (at what date or in which specific period) did it happen? In what way did it constitute a CTP?*
2) **Co-production.** *What particular events/people/developments/circumstances/conditions/ spatial environment made the CTP happen?*
3) **Related events.** *What earlier events (coming from within or from outside) were crucial to the CTP to happen and when (at what date or in which period) did they occur? Which important later events were evoked by the CTP and when (at what date or in which period) did they occur?*
4) **Contestation.** *To what extent did the CTP involve contestation? What was the contestation about, and who were involved in it? How (if at all) was the contestation overcome?*
5) **Anticipation.** *Was the CTP, as identified now, also understood as CTP at the time when it occurred? Or is it an understanding that developed later? Had it (and the events/people/etc. that evoked it) been foreseen or anticipated?*
6) **Learning.** *What are the change ambitions of your initiative, and how did the CTP make a positive or negative contribution towards achieving those? If you were to draw a lesson about this CTP, what would this be? How does the CTP relate to the current challenges of your initiative?*

The qualitative CTP accounts have been constructed on the basis of interviews (following the questions displayed above) with representatives or individuals otherwise involved with SI initiatives. As the organizational structures and cultures of SI initiatives generally make it impossible to fully speak on behalf of the collective, all CTP accounts are provided with meta-data that specify the interviewees' relation to the SI initiative – whilst in some cases, personal data have been rendered anonymous for reasons of sensitivity. In order to convey some of interviewees' lived-through experience and their telling expressions about CTP episodes, the files contain direct quotes (recognizable as such through italics and meta-data). The CTP files mainly contain researchers' interpretations and paraphrasing of interviews however. This reflects the circumstance that researchers have generally had large parts in the construction of CTP accounts: Interviewees' accounts needed to be fitted in with the six database categories/CTP topics, what appeared as detail needed to be filtered out to keep the files concise, and the broader relevance to TSI topics needed to be elicited. In some cases the researchers even decided to recombine interviews and accounts of more than one interviewee, in order to construct sufficiently distinct, understandable and interesting CTP accounts. The sensitivity of online open access publication is another reason for presenting CTP accounts not as direct and pure accounts of interviewees, but as interpretations (for which interviewers bear responsibility). Whilst trying to convey the essence of respondents' interesting insights, the CTP accounts are presented as researchers' reality constructions rather than as real-life recordings.

Regarding the validity of the CTP data, it needs to be said that the broad scope of the CTP data gathering has not allowed for exhaustive research of the timelines. The six CTPs per initiative have been constructed through on average about 4 different respondents per initiatives. This has allowed for a degree of data triangulation, i.e. different viewpoints on certain timeline events. More generally, TRANSIT researchers have tried to ensure the quality of CTP accounts by aiming for diversity in interviewees (position in the initiative, acquaintance with particular topics, early and later members). This has avoided dramatically unbalanced or biased accounts, but it needs to be considered that the CTP database provides situated accounts of TSI, based on perceptions of SI actors that foreground some aspects whilst backgrounding others. The CTP database can therefore not be used through a survey logic; an interpretive approach to the evidence is required.

### *3.3 Dataset: SI initiatives, networks and countries*

The data-set has been built up following the case selection of the earlier phase of embedded in-depth case studies. Each of these 20 studies comprised analyses of one transnational SI network and two of its 'local manifestations' in different European and Latin-American countries (Cf. Jørgensen et al. 2016). The original sample of 2x20=40 of these local initiatives was afterwards expanded for the CTP database to 80, i.e. four local initiatives for each SI network. The database thus features timelines and descriptions of local SI initiatives somehow associated with the following 20 transnational networks:

| **SI Network** | **Description** |
|---|---|
| Global Ecovillage Network (GEN) | Network of eco-villages and other intentional communities |
| Transition Towns | Grassroots communities working on 'local resilience' |
| OIDP/Participatory Budgeting | Network of communities and municipalities reinventing how public money is spent and prioritized |
| Shareable | Connecting and empowering urban sharing initiatives |
| Living Knowledge | Network of science shops and community-based research entities |
| DESIS network | Network for design for social innovation and sustainability |
| Living Labs | co-creative, human-centric and user-driven research, development and innovation |
| Seed Exchange Network | Protects biodiversity by defending seed freedom for integrity, self-organization and diversity |
| Impact Hubs | Global network of social entrepreneurs |
| FEBEA | Different types of credit cooperatives |
| Slow Food | Linking food to a commitment to sustainable local and global development |
| ICA/co-housing | Associations that co-working for sustainable inclusive habitat |
| INFORSE | International network of sustainable energy NGOs |
| FABLABS | Digital fabrication workshops open to local communities |
| Hackerspaces | User driven digital fabrication workshops |
| Via Campesina | Aiming for family farming to promote social justice and dignity |
| BIEN | Connects people committed to basic income and fosters informed discussion |
| Timebanks | Networks facilitating reciprocal service exchange |
| RIPESS | Network for the promotion of social solidarity economy |
| Ashoka | Network for financial support to social entrepreneurs |

**Table 1: Transnational SI networks**

**Local SI initiatives .**

The above SI networks and the associated network organisations have been studied earlier for their contributions to TSI processes and their empowerment of local initiatives or 'local manifestations' (Cf. Jørgensen et al. 2016; Haxeltine et al. 2017a Chapter 5). The CTP research has focused instead on the analytical level of the 'local initiatives', as locally embedded groups of actors that are relatively more directly involved with the concrete action of promoting new social relations. The 'local initiatives' are organized collectives of individuals seeking to promote certain social innovations. They can be 'local' in the sense of Ecovillages or Transition Towns, situated in particular places, but they can also be national affiliations or sub-networks of the above transnational networks: they are 'local' relative to the transnational networks that they are somehow part of. More generally, it is important to realize that transnational SI networks and SI initiatives exist in widely differing organizational forms and network structures. Local SI initiatives and SI networks tend to be collectives with less than clear-cut membership. Whilst cooperatives and Timebanks are quite well-demarcated associations for example, there are also initiatives that are formed around shared ideas and values (e.g. basic income, Slow Food). The CTP accounts have therefore crucially involved researchers' interpretations and case constructions to develop comparable and insightful CTP accounts on certain SI initiatives. This identification and demarcation of the 'local SI initiatives' has been discussed extensively throughout the research process, following research guidelines outlined in Jørgensen et al. (2016). The importance of this element of reality construction is further reflected upon in the concluding section.

The various kinds of local SI initiatives have been studied in the following different countries (Cf. appendix 1 for the names of the initiatives and their countries):

| Country | N local initiatives | Country | N local initiatives |
|---|---|---|---|
| United Kingdom | 14 | USA | 2 |
| Brazil | 7 | Wales | 2 |
| The Netherlands | 5 | Canada | 1 |
| Argentina | 5 | Portugal | 1 |
| Denmark | 5 | Australia | 1 |
| Germany | 5 | Chile | 1 |
| Italy | 4 | Finland | 1 |
| Spain | 3 | Greece | 1 |
| Hungary | 3 | Ireland | 1 |
| Switzerland | 3 | Japan | 1 |
| Belgium | 3 | Mexico | 1 |
| France | 2 | Tunisia | 1 |
| Austria | 2 | Poland | 1 |
| Uruguay | 2 | | |

**Table 2: SI initiatives per country**

In terms of numbers, the dataset can be circumscribed as follows:

- Approx. **80 timelines** of local SI initiatives
- **Timelines comprising 6 CTPs** and 'related events'
- **450+ accounts of CTPs**
- CTP accounts comprising on average about **2000 words**
- **S**ummary **descriptions of approx. 80 local SI initiatives**
- Local SI initiatives associated with **20 transnational SI networks**
- Local SI initiatives studied in **27 different countries**

## 4 CTP database deployment: Theory development and reflexive practice

This section describes how the database can be deployed. This can be for purposes of secondary empirical research or theory development, similar to the research activities of the TRANSIT project, or for purposes of exploration and reflection on one's own SI practice. We therefore describe first the database search functions **(4.1)**, followed by a summary of our own theory-oriented deployment **(4.2)**, and a sketch of practice-oriented deployments **(4.3)**.

### *4.1 Search functions*

The CTP database is equipped with a search functionality deliberately kept simple. The list of SI networks and associated SI initiatives leads directly to these particular cases, to begin with. Furthermore, the web interface displays the investigated SI initiatives on a world map to allow for searches by country. This is more a communicative device to highlight the international scope of the research than a key functionality, however. The database does not follow a mapping logic and does not contain data that would allow for a systematic comparison of national contexts. The main search function follows a *thematic* logic of searching by key word ('tags'), next to which there is the possibility for full-text searches, i.e. for any combination of words.

The screenshot (*figure 2*) of the database webpage displays the 74 keywords through which the files of CTPs and SI initiatives have been coded. All files are marked by between 8 and 10 of these key words. Structured along five themes, the key words have been selected to cover the main topics of TSI theory (see next subsection for their application to the set of theoretical propositions developed by TRANSIT). The screenshot shows the possibility to search for single or combinations of key words (in orange): this directs the user to CTP files that - according to the researcher who attached these key words to the file – provide interesting insights on these prominent aspects of TSI. The search-by-keyword approach thus underlines how the CTP data are closely connected to the broader project of TSI research. The key word structure can be appreciated as a condensed display of the topics addressed in the TRANSIT research, and discloses data along the categorizations and distinctions developed in the course of the project.

Next to the key word search, the database provides a full-text search. This allows for specific searches after phenomena not captured in the key word structure, or searches after specific phenomena appearing in search results. The two search functions complement each other. The screenshot below (*figure 3*) displays how search results are displayed on screen: The logos of SI initiatives are visual aids towards immediate associations between CTPs and initiatives, and the

search results list also distinguishes between files of SI initiatives and CTP files. The database does not provide filtering functions.

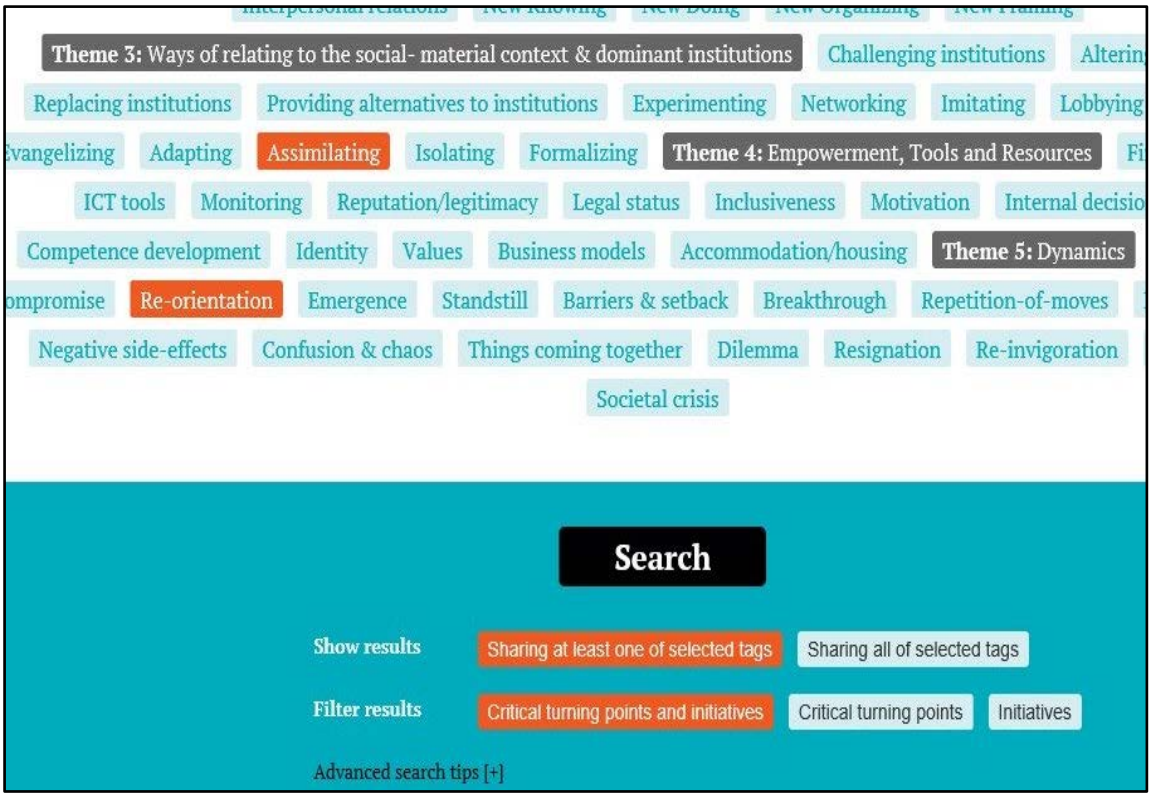


**Figure 2: Search by key word (database screenshot)**

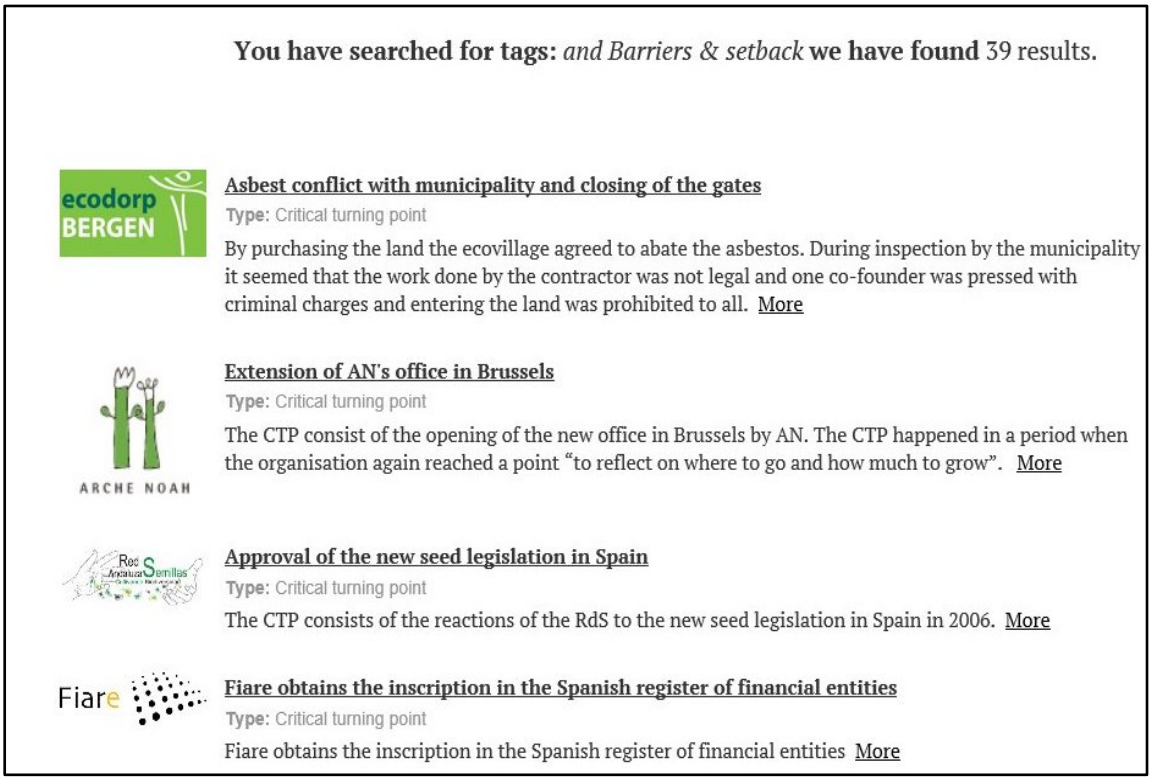


**Figure 3: Search results (database screenshot)**

### *4.2 Analysis strategies and theory development*

The CTP database is structured to support searches for specific aspects of TSI processes. As indicated through the five key word themes, the user can search for kinds of actor/organizations that SI initiatives interact with, for kinds of interactions, for kinds of social innovations, for kinds of tools and resources through which SI initiatives can be empowered, and for kinds of dynamics that may occur in the 'innovation journeys' of SI initiatives. Database users with interests in particular aspects of TSI are therefore likely to easily find one or several relevant key words through which to start the database search.

In terms of its search functions, the deployment of the CTP database is thus straightforward. However, especially when using the database for scientific purposes, it is desirable to develop a more elaborate analytical strategy. As documented in Pel et al. (2017a), the meta-analysis through CTP data involved several considerations to bridge the inevitable gaps between data and key words on the one hand, and on the other hand the needs for particular kinds of evidence as ways to develop propositions on aspects of TSI theory (Cf. Haxeltine et al. 2017a). The following considerations, often made iteratively, helped to make optimal use of the database:

**Choice of analytical strategy.** Our database searches were to inform further development of a diverse set of theoretical propositions on TSI. Before starting any database searches, we needed to clarify first to what extent the proposition could be tested in the positivist sense: What evidence could *confirm* or *falsify* the proposition? Beyond such proposition testing, we have considered further how CTP data could substantiate a proposition, *enhance* its *process insights* through distinctions of phases and sequences of events, *substantiate* it through empirical examples, or *unpack* it through typologies. Clarifying what kind of insight we sought to develop, this choice of analytical strategy helped avoid 'getting lost in the data'.

**Formulation of empirical questions.** The theoretical propositions that were formulated differed in level of empirical concreteness, but were often quite abstract. It has proven useful to specify the concrete empirical phenomena that the theoretical statements referred to, and to formulate corresponding empirical questions (in line with the chosen analytical strategy). For example, when looking for processes of 'institutionalization', what are the kinds of concrete empirical evidence sought for?

**Identification of relevant database searches.** Narrowing down and clarifying the empirical evidence sought for, the formulation of empirical questions is crucial. The immediately related consideration is to what extent the questions are answerable through the CTP data and its six topics. Only after these considerations it becomes clear what key words are the most useful to work with, and which full-text searches could complement this search. It is useful to keep track of the searches performed and the numbers of search results – the answering of a specific empirical question will generally involve a process of trying several searches.

**Ordering and presentation of evidence.** One CTP file amounting generally to some 2000 words, it is important to order the vast amounts of qualitative evidence in an insightful way. The distinction of a series of empirical questions provides already some structure for the presentation of evidence. Depending on the aims for overview and empirical detail, combinations can be sought between 1) overview tables containing certain subsets of SI

initiatives; 2) quantitative analyses supported by Excel sheets listing the files in the database; 3) typologies substantiated through exemplar CTPs and their unique hyperlinks; and 4) qualitative-interpretive accounts with citations of text fragments. *(In the latter case of drawing extensively on CTP materials, it is a matter of good scientific practice to contact the researcher(s) involved!)*

### *4.3 Reflective practice*

Next to the deployment for research purposes, the search functions and database contents are also meant to support various kinds of practice-oriented explorations. Beyond consultations of the database, this can also take the form of procedures for learning, evaluation and reflection through the CTP concept itself.

As outlined above, the database allows for systematic analysis of particular aspects of TSI. Such scientific approach is not necessarily instructive for practice, however. By contrast, the database can also be used to compare one's own SI experiences with those of others. *What could be the similarities with SI initiatives as diverse as Timebanks, Ecovillages and Via Campesina? What are the typical setbacks encountered by other SI initiatives? What other kinds of SI initiatives exist and what developments in their contexts have helped or hindered them in achieving transformative impacts?* Such questions can be explored by consulting the accounts of particular initiatives and their timelines, or by browsing the results of searches by relevant key words. Similarly, the database provides an opportunity for interested individuals to explore the diverse world of TSI. *What is TSI about? What groups of people and activities does it refer to? What SI initiatives have been studied in my country? What are the kinds of turns of events that can happen in these innovation processes? What kinds of contestations and politics are involved?*

The comparison between various timelines and processes of co-produced TSI arguably stimulates reflection on one's practice. Importantly, this reflection comes not only from the answers to the CTP questions as gathered in the database. As already became apparent during the CTP interviews we conducted, it can be particularly instructive to work with the CTP *questions* (Cf. subsection 3.2), and to reconstruct one's own experiences with SI or the timeline of an otherwise familiar innovation initiative. *Which were the important turns of events for my initiative/ organization and in what respect? Were they internal developments, or were they evoked by outside events? Was the supposed CTP the real CTP, or rather a surface manifestation of an episode that had started earlier already? Considering the set of CTPs identified, what does this tell about the actual ambitions and priorities of my/our initiative?* Especially in the cases in which the CTP interviews were conducted with more than one individual, the CTP questioning proved conducive to dialogue, joint reflection and learning. The CTP questioning will therefore be further developed in the form of TRANSIT tools on monitoring and self-evaluation. More generally, there seems to be a wide scope for such alternative applications of the CTP concept – the basic idea being that the identification of a certain event as a 'critical turning point' invites broader dialogue about that assessment.

## 5 Concluding reflection: On mapping, dissemination and framing

As indicated in the introduction section, the CTP database has helped the TRANSIT consortium to develop systematic insight beyond the singular example. In particular it has helped us move beyond the *misleading exemplars of TSI agency* (projecting motivations and strategies onto the

much more diverse world of TSI activity), and beyond *misplaced universalism about TSI contexts* (neglecting how opportunities for SI activities and transformative impacts differ greatly across countries, regions and historical episodes). Even after a limited browsing of the 450+ accounts of CTPs one will not easily confuse the challenges of, for example, Timebanks with those of the Ecovillages, or confuse either of them for an account of TSI in general. The CTP database reminds of the wide range of transformation processes (Cf. Stirling 2011) lying underneath what TRANSIT researchers have attempted to grasp as a general phenomenon of TSI.

Set up as an online open access database, other researchers, policy makers, the wider public and people involved in the SI initiatives under study can share in this opportunity for comparative analysis and reflection. This construction increases the societal returns on the research investments of funding bodies, researchers and those volunteering to participate in the research. Moreover, the open access database serves (at least potentially) as a knowledge infrastructure for transdisciplinary science and other forms of dialogue on matters of Transformative Social Innovation.

In light of the above it is therefore not surprising that there are many other similar projects currently ongoing. In this regard one can think of the various mappings of SI activities undertaken by research consortia (Pelka & Terstriep 2016), by policy research agencies and notably by networks of SI initiatives. Related efforts into the construction of knowledge infrastructures can be seen in the systems for monitoring, match-making and knowledge consolidation of various social innovation platforms and 'Hubs', and more generally there is the proliferation of websites and online communities through which SI initiatives establish the existence of alternative, transformative ways of doing and knowing (Pel & Backhaus under review). Also taking into account the developments towards opening up of the system of scientific knowledge production, the described CTP knowledge infrastructure will arguably be followed by many similar undertakings.

Some concluding reflections on the challenges of developing such knowledge infrastructures seem therefore in place. First, the experiences with this database construction project reaffirm the lessons of Star & Griesemer (1999). Ideally, the CTP database would constitute a system serving both the research interests of TRANSIT researchers as well as the knowledge interests of SI practitioners in terms of monitoring, evaluation and mapping. However, as usual, the development of such polyvalent boundary object construction involved many trade-offs and resource constraints. Even the relatively simple CTP database required a thorough clarification of the precise functionalities to be achieved. With regard to the development of future more emphatically transdisciplinary SI knowledge infrastructures, it will be crucial to clarify the different knowledge interests involved – *what is to be made visible for whom and why?* Second, there is the basic lesson that the development of these systems takes considerable time. The CTP database could in principle have been launched online earlier than in the fourth and final project year, yet that would have required taking very early decisions on its scope and architecture – most likely leading to a dataset out of sync with the theory development that it was to support. Beyond this issue of timing and project planning, there are the obvious challenges of maintenance (let alone updating) over time. Similar initiatives will be well-advised to realistically consider the possibilities available within and beyond the prevailing project format.

Third and finally, we wish to underline that the CTP database project is in several aspects itself a project with socially innovative dimensions. We define social innovation as the promotion of new social relations, involving new ways of doing, organizing, framing and knowing. The CTP database is a good example of seizing recent changes in the social-material context (the ICT revolution), allowing new knowings and framings to circulate and travel fast. Considering how TRANSIT researchers have actively constructed CTP accounts out of interviews, the database does not simply *map* SI realities. Instead, it rather co-produces them by giving exposure to SI initiatives and by disseminating SI in certain ways. The online open access construction changes relations between researchers, interviewed individuals and database users in particular ways. One response to that was trying to ensure informed consent to publish from the individuals volunteering to contribute. This paper is another way to account for the reality construction process underlying the database contents, also identifying how the CTP database has been co-produced by many researchers and interviewees. Especially when building – as intended - on the database contents for further explorations of TSI phenomena, we therefore encourage database users to make reference to this working paper, as ways to account for their constructions of TSI realities.

## Acknowledgements

This article is based on research carried out as part of the Transformative Social Innovation Theory ("TRANSIT") project which is funded by the European Union's Seventh Framework Programme (FP7) under grant agreement 613169. The views expressed in this article are the sole responsibility of the authors and do not necessarily reflect the views of the European Union.

## References

Avelino, F., J.M. Wittmayer, B. Pel, P. Weaver, A. Dumitru, A. Haxeltine, R. Kemp, M.S. Jørgensen, T. Bauler, S. Ruijsink, T. O'Riordan (2017), "Transformative Social Innovation and (Dis)Empowerment: Towards a Heuristic", *Technological Forecasting and Social Change*, Online: https://doi.org/10.1016/j.techfore.2017.05.002

Bouchard, M.J. & Trudelle, C. (2013), "Exploring the conceptual universe of social innovation: A relational database for a better understanding of its effects on social transformation", *Social Frontiers, the next edge of social innovation research*

Cipolla, C., Afonso, R., Pel, B., Bartholo, R., Silva, E. & Proença, D. (2017), "Co-produced game-changing in transformative social innovation: reconnecting the 'broken city' of Rio de Janeiro", *Ecology & Society*

Garud, R., & Gehman, J. (2012), "Metatheoretical perspectives on sustainability journeys: Evolutionary, relational and durational", *Research Policy*, 41(6), 980-995.

Haxeltine et al. (2017a), "Consolidated version of TSI theory", Deliverable D3.4, *TRANSIT*

Haxeltine, A., Pel, B., Wittmayer, J., Dumitru, A., Kemp, R. & Avelino, A. (2017b), "Building a middle-range theory of Transformative Social Innovation; theoretical pitfalls and methodological responses", Methodological challenges in Social Innovation workshop, February 9th 2017, Brussels (BE)

Jørgensen, M.S., Avelino, F., Dorland, J., Rach, S. and Wittmayer, J. (2016), "Synthesis across social innovation case studies", TRANSIT deliverable 4.4, Part 1, *TRANSIT*

McGowan, K., & Westley, F. (2015), "At the Root of Change: The History of Social Innovation". In New Frontiers in Social Innovation Research, Palgrave Macmillan UK, 52-68.

Pel, B. et al. (2017a), Synthesis report: meta-analysis of Critical Turning Points in TSI: Deliverable D5.4.: *TRANSIT*

Pel, B., Dorland, J., Wittmayer, J. & Jørgensen, M.S. (2017b), "Detecting Social Innovation; finding appropriate units of analysis for dispersed transformation processes", Methodological challenges in Social Innovation workshop, February 9th 2017, Brussels (BE)

Pel, B. & Backhaus, J. (under review), Realizing the Basic Income; the promotion of transformative knowings through competing claims to expertise, submitted to Science & Technology Studies

Pelka, B., & Terstriep, J. (2016), "Mapping the Social Innovation Maps–The State of Research Practice across Europe", *European Public & Social Innovation Review*, 1(1), 3-16.

Star, S. L., & Griesemer, J. R. (1989), "Institutional ecology, translations' and boundary objects: Amateurs and professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39", *Social studies of science,* 19(3), 387-420.

Stirling, A. (2011), "Pluralising progress: From integrative transitions to transformative diversity", *Environmental Innovation and Societal Transitions*, 1(1), 82-88.

*Appendix 1: Overview SI networks, SI initiatives and countries*

| SI Network | Local SI initiative | Country |
|---|---|---|
| **RIPESS** | RIPESS/ APRES-GE | Switzerland |
| | RIPESS/ CRIES* | Romania |
| | RIPESS/ Ecocitrus | Brazil |
| | RIPESS/ Groupe Terre | Belgium |
| **Seed exchange Netw.** | Red de Semillas | Spain |
| | Arche Noah | Austria |
| | Magház - Seed House | Hungary |
| | ProSpecieRara | Switzerland |
| **BIEN** | BIEN-SUISSE (BIEN-Switzerland) | Switzerland |
| | BICN - Basic Income Canada Network* | Canada |
| | BIEN/Netzwerk Grundeinkommen* | Germany |
| | BIEN/Vereniging Basisinkomen | Netherlands |
| **Timebanks** | Volunteer Labour Bank/Network | Japan |
| | Fair Shares | United Kingdom |
| | Spice | Wales |
| | Hour Exchange Portland | USA |
| **Impact Hub** | Impact Hub Amsterdam (IH AMS) | Netherlands |
| | Impact Hub London King's Cross (IH KC) | UK |
| | Impact Hub Vienna | Austria |
| | Impact Hub Belo Horizonte, Brazil | Brazil |
| **OIDP** | Participatory Budgeting Amsterdam | Netherlands |
| | Participatory Budgeting Fortaleza | Brazil |
| | Participatory Budgeting Belo Horizonte | Brazil |
| | Participatory Budgeting Porto Alegre | Brazil |
| **GEN/Ecovillages** | Ecovillage Sieben Linden | Germany |
| | Ecovillage Schloss Tempelhof | Germany |
| | Ecovillage Findhorn | UK |
| | Ecovillage Bergen | Netherlands |
| **Via Campesina** | Via Campesina/APENOC | Argentina |
| | Via Campesina/RMRU | Uruguay |
| | Via Campesina/ANAMURI | Chile |
| | Via Campesina/MNCI | Argentina |
| **Living Labs** | Living Labs - Laurea | Finland |
| | Living Labs -iMinds Living Labs | Belgium |
| | Living Labs - Living Lab Eindhoven | Netherlands |
| | Living Labs - Sfax Smart Living Lab | Tunisia |
| **INFORSE** | INFORSE -VE | Denmark |
| | INFORSE - Samsoe Energy Academy | Denmark |
| | INFORSE -Ecoserveis | Spain |
| | INFORSE -CLER | France |
| **DESIS** | DESIS - ID+ DESIS Lab, Aveiro | Portugal |

| | | |
|---|---|---|
| | DESIS - POLIMI DESIS Lab Italy | Italy |
| | DESIS - DESIS Lab Belo Horizonte | Brazil |
| | DESIS - DESIS Lab Florianópolis | Brazil |
| **Living Knowledge** | Living Knowledge - Science Shop DTU | Denmark |
| | Living Knowledge - Science Shop Ireland | Ireland |
| | Living Knowledge - Wissenschaftsladen Bonn | Germany |
| | Living Knowledge - (ESSRG) | Hungary |
| **Ashoka** | Ashoka Hungary | Hungary |
| | Ashoka Germany | Germany |
| | Ashoka Poland | Poland |
| | Ashoka France* | France |
| **FEBEA** | FEBEA/Merkur Cooperative Bank | Denmark |
| | FEBEA/Fiare | Spain |
| | FEBEA/Banca Popolare Etica | italy |
| | FEBEA/Credal | Belgium |
| **ICA** | ICA/Fucvam | Uruguay |
| | ICA/CCVQ | Argentina |
| | ICA/MOI | Argentina |
| | ICA/COVILPI | Argentina |
| **Slow Food** | Slow Food/Slow Food Mexico | Mexico |
| | Slow Food/Slow Food Araba-Vitoria | Spain |
| | Slow Food/Slow Food USA | USA |
| | Slow Food/Slow Food Italy | Italy |
| **Shareable** | Shareable-Co-Bologna&LabGov | Italy |
| | Shareable- ShareBloomington | USA |
| | Shareable-ShareMelbourne | Australia |
| | Shareable-ShareableAthens | Greece |
| **Fablabs** | FL-1* | UK |
| | FL-2 | UK |
| | FL-3 | UK |
| | FL-4 | UK |
| **Hackerspaces** | HS-1 | UK |
| | HS-2 | UK |
| | HS-3* | UK |
| | HS-4 | UK |
| **TRANSITION Towns** | Omstilling Ry (Transition Ry) | Denmark |
| | Transition Bro Gwaun | Wales |
| | Transition Norwich | UK |
| | Transition Town Tooting | UK |

*** Files under construction at the time of writing.**