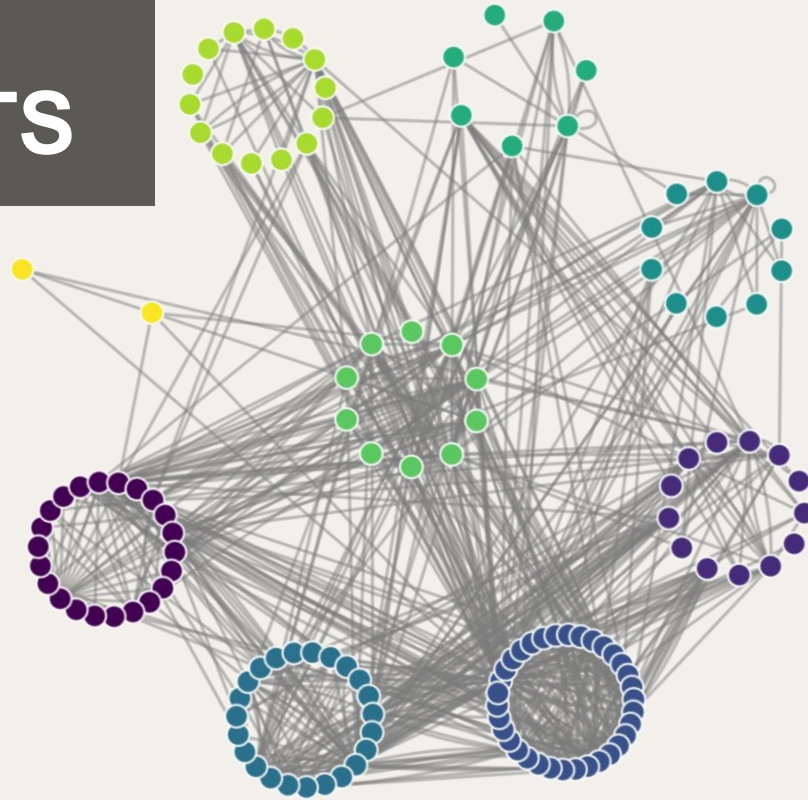


KEY INSIGHTS



BIOTEXFUTURE
TRANSITION LAB

INVESTIGATING THE NETWORK OF INNOVATION COLLABORATION IN BIOTEXFUTURE

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SONA – 04.2023

1. RESEARCH INTEREST

Aims and methods of the SONA survey panel

2. BIOTEXFUTURE MEMBERS

Overview of the members in the innovation space

3. INNOVATION COLLABORATION

The network of exchange, learning and professional inspiration

4. PROJECT GOVERNANCE

Impact and perceptions of project governance

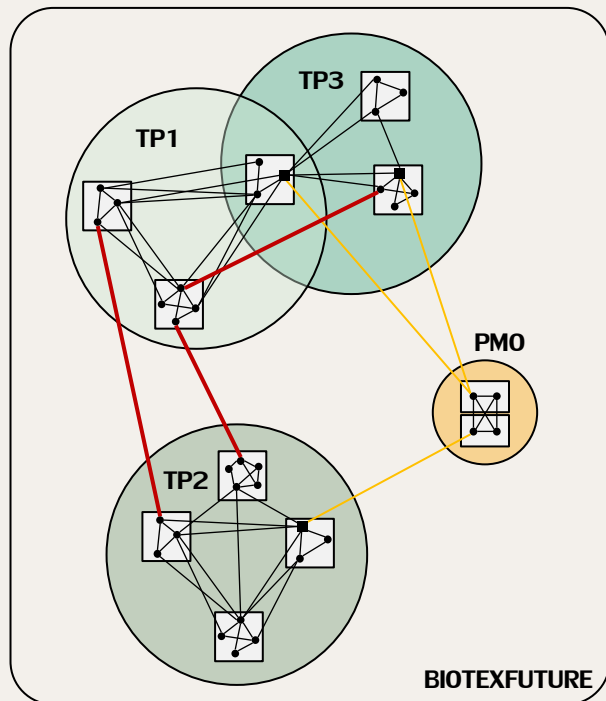
SONA SURVEY

Aims and methods

- **Aims.** We aim to capture and analyze the network and quality of innovation collaboration in the BIOTEXFUTURE innovation space.
- **Methods.** SONA is a mixed-method approach to studying innovation collaboration in organizational networks (Glückler & Hammer, 2011).
- SONA contributes to enhancing collaboration (Glückler et al., 2020):
 - **Sensitization and activation**
 - **Diagnosis and opportunities**
 - **Theory and recommendations**
- **Interviews.** We conducted 14 semi-structured interviews with project leaders from all projects (Dec 2022) and all PMO members as part of the first SONA panel. These interviews helped devise the questionnaire for the network survey.
- **Survey.** We invited all members of the innovation space via email to respond to the survey during the time between 09 Dec 2022 and 28 Feb 2023.
- The questionnaire contained 7 sets of items with a total of 17 questions. This presentation highlights preliminary descriptive results of the network analysis.

INNOVATION COLLABORATION

A generic model of network relations in BIOTEXFUTURE



We distinguish three types of ties:

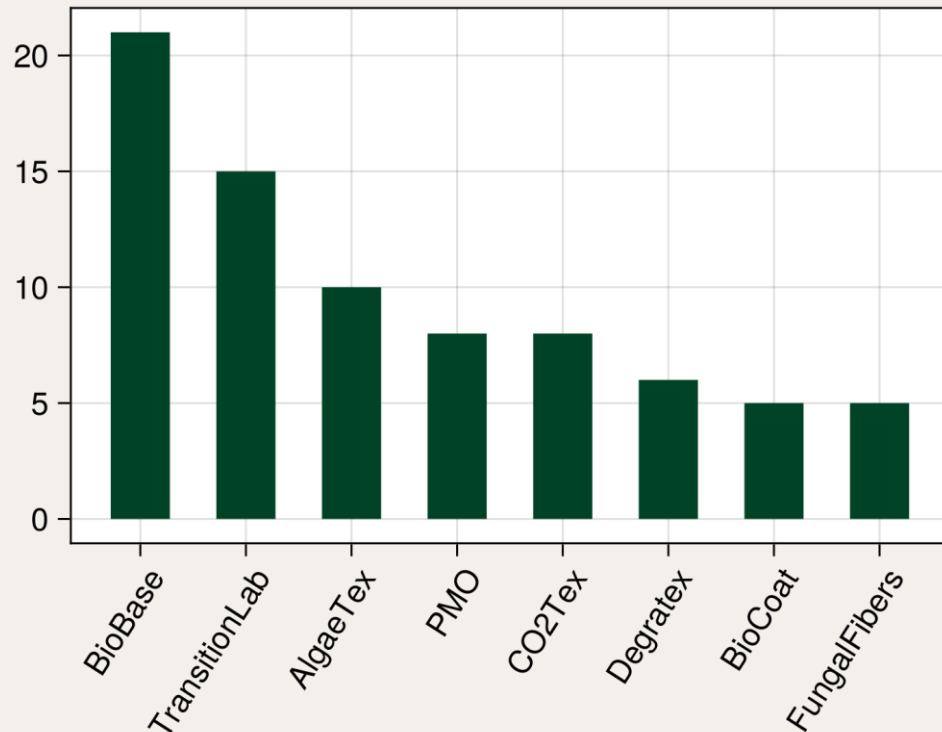
- Type-1: Intra-project relations
- Type-2: PMO-project relations (e.g., SPOC)
- Type-3: Inter-project relations

Research questions:

- **Magnitude** and **structure** of type-3 ties?
- **Effects** of type-3 ties
- **Drivers** of type-3 ties, including
 - (i) *endogenous*, e.g. work, referrals by peers
 - (ii) *events*, e.g. organized serendipity, cross-project events (Members Day, Forum, etc.)
 - (iii) *governance*, e.g. PMO induced contacts

Q1. WHO YOU ARE

In which of the projects do you participate?



- The PMO provided a list of all project members, including ex-members, who we all invited to participate in the survey.
- Project leads helped identify the currently active project members.
- Excluding ex-members, the population of individuals currently working in the innovation space includes 74 people.
- 64 members (response rate: 86%) completed the questionnaire.

Q1. WHO YOU ARE (CONTINUED)

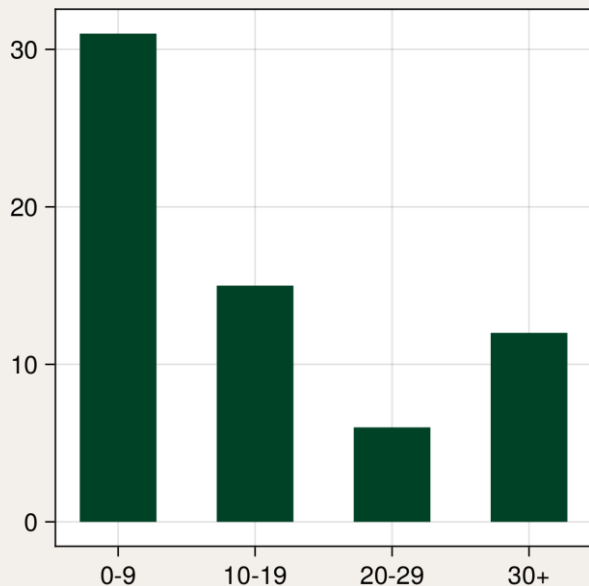
Expert Directory



- Members of BIOTEXFUTURE include employees, researchers, heads of departments, managers and university professors.
- A total of 37 respondents qualified their expertise to be shared in the upcoming **Expert Directory**.
- Members provided a range of 1-10 skills for self-description, with a mean of 4 skills.
- Altogether, the responses add to a portfolio of more than 100 different skills that BIOTEXFUTURE unites for potential cross-fertilization.
- Sharing the expert dictionary in near future will raise transparency, foster mutual visibility and ease access to potentially useful competences and expertise.

Q2. YOUR WORK

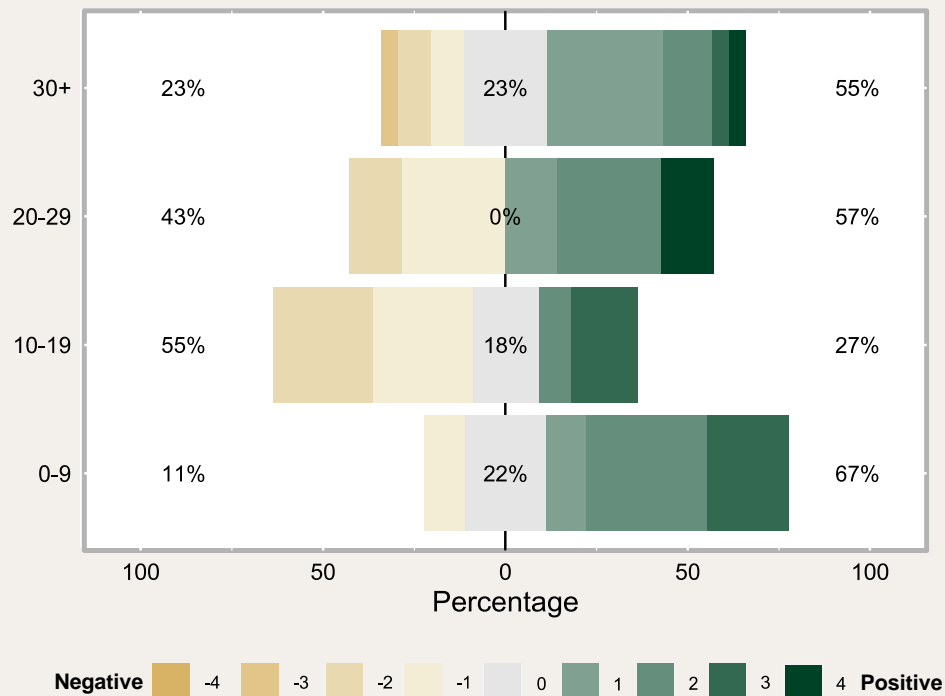
How many hours per week have you spent on BIOTEXFUTURE on average during the year 2022?"



- The participants reported to have worked between one and over 40 hours per week on a project in BIOTEXFUTURE.
- The average commitment to work on the innovation space was 13 hours per week in 2022.
- Almost half of all collaborators (31) did work less than 10 hours per week.
- A minority of less than 6% (12 individuals) were employed full time.

Q2. YOUR WORK (CONTINUED)

How do you rate your cost-benefit balance when comparing your work effort with the overall project outcome to this day?

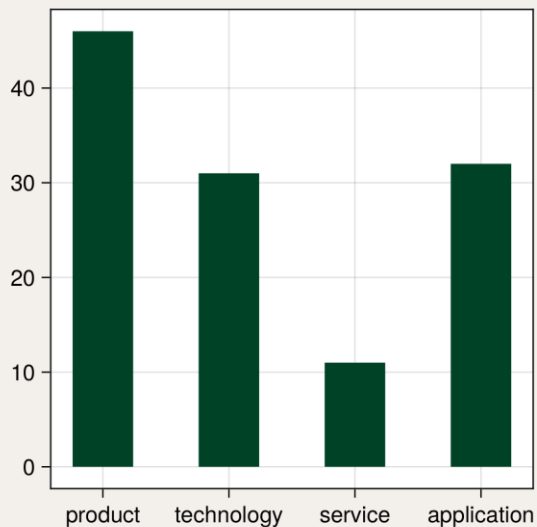


- The average rating of the cost-benefit ratio was slightly positive (0.55).
- Positive ratings increase with the commitment of effort to the project: the more hours worked, the more frequently members reported positive ratings.
- Participants with marginal part-time contribution (10-19 hours per week), were the only group of members reporting a negative rating of their cost-benefit ratio.

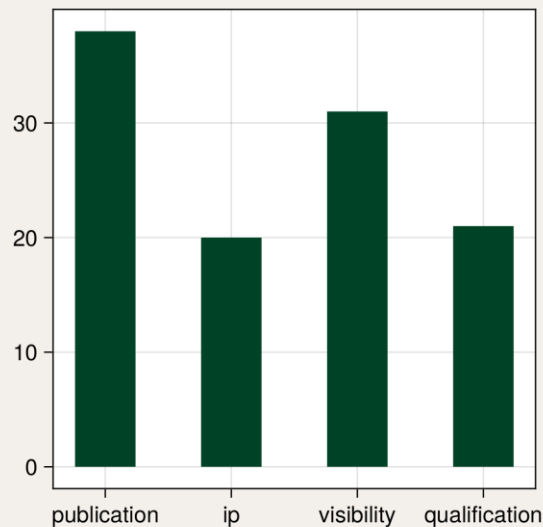
Q2. YOUR WORK (CONTINUED)

Which outcomes do you need to achieve in order to consider your project a success?

Production outcomes



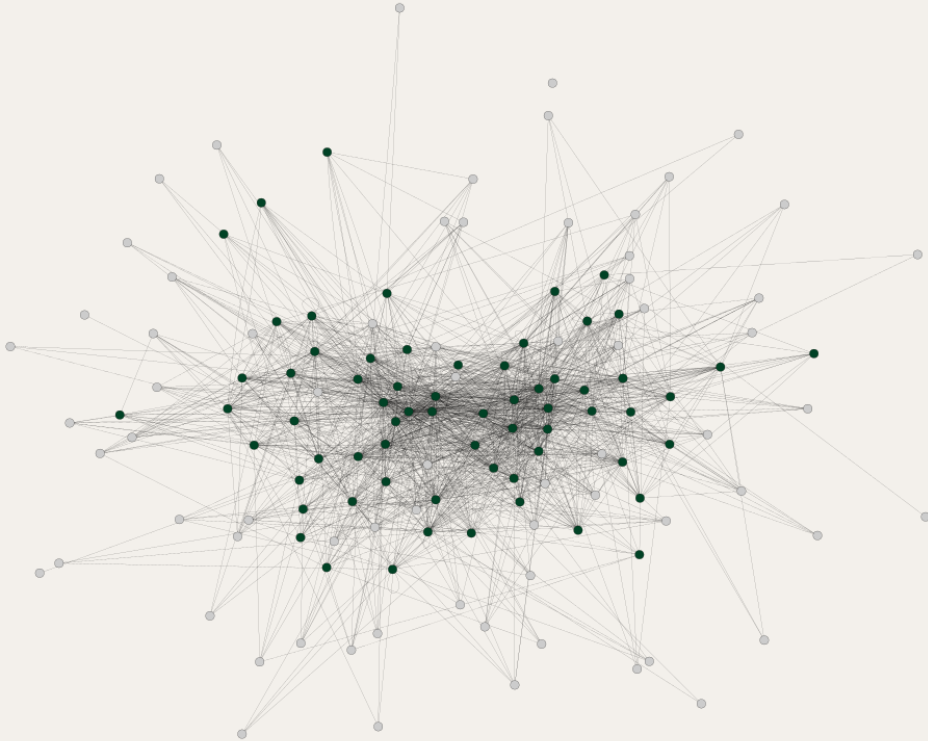
Exploitation outcomes



- Members pursue a variety of different outcomes, some of which are complementary, whereas others are rival, e.g. publication prior to patent application.
- Interviews with PLs and PMO members suggest that conflicting interests have often lead to friction and barriers inhibited exchange of results in and beyond projects.

Q3. WHO YOU SPOKE TO

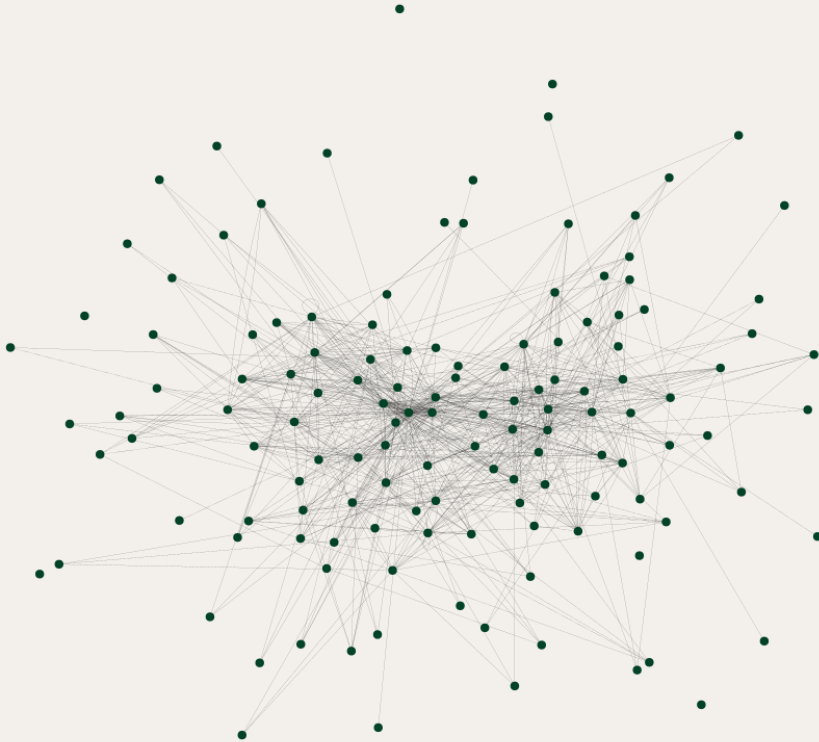
Who are the people in BIOTEXFUTURE that you have spoken to individually?



- A total of 65 individuals reported 1,739 relations and identified 71 additional people.
- The network is connected, without isolates.
- We found 1,110 ties among the respondents (density = .255).
- The number of people a member talked to ranges from 0 to an extraordinary 122, with a mean degree of 16 contacts.

Q4. WHO YOU HAVE LEARNED FROM

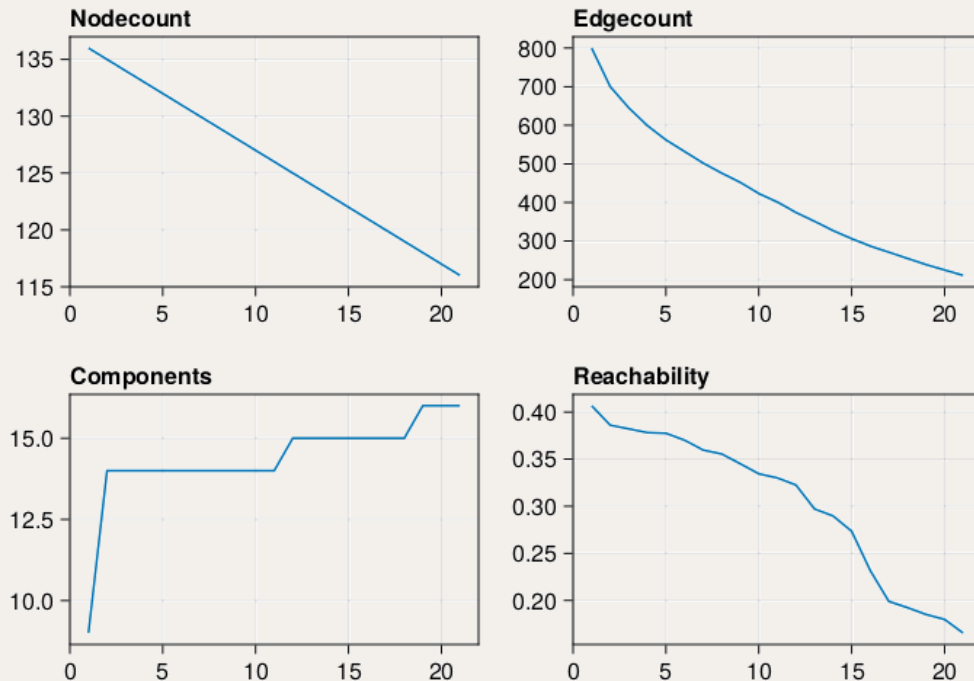
Who are the individuals who have helped you solve problems or build new knowledge in your project?



- The 65 respondents reported 800 learning relations, with 8 members being disconnected from the learning network (isolates).
- The network consists 531 learning (density = .126).
- The number of people that a member acknowledged for receiving help ranges from 0 to 79, with an average degree of 6.20.
- The number of acknowledgements that a person received for providing help ranges from 0 to 26, with an average degree of 6.20.

ROBUSTNESS

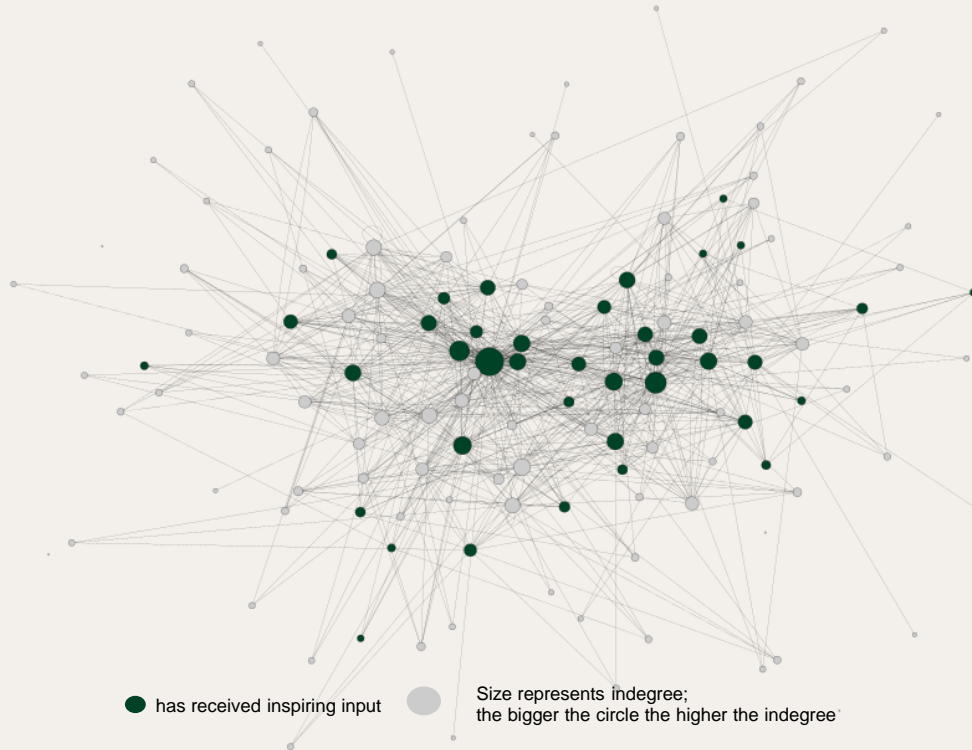
How much does the network depend on a few actors?



- With the exception of 8 isolates, all the other members can reach each other through intermediate contacts in the knowledge network.
- How vulnerable is the connectivity to disruption? Withdrawing the two most highly connected individuals would lead to the loss of 100 relationships, and it would disrupt the network into 13 disconnected components.
- If 11 people were removed, more than half of the relationships disappear and the network ends up totally fragmented.

KNOWLEDGE SHARING NETWORK (CONTINUED)

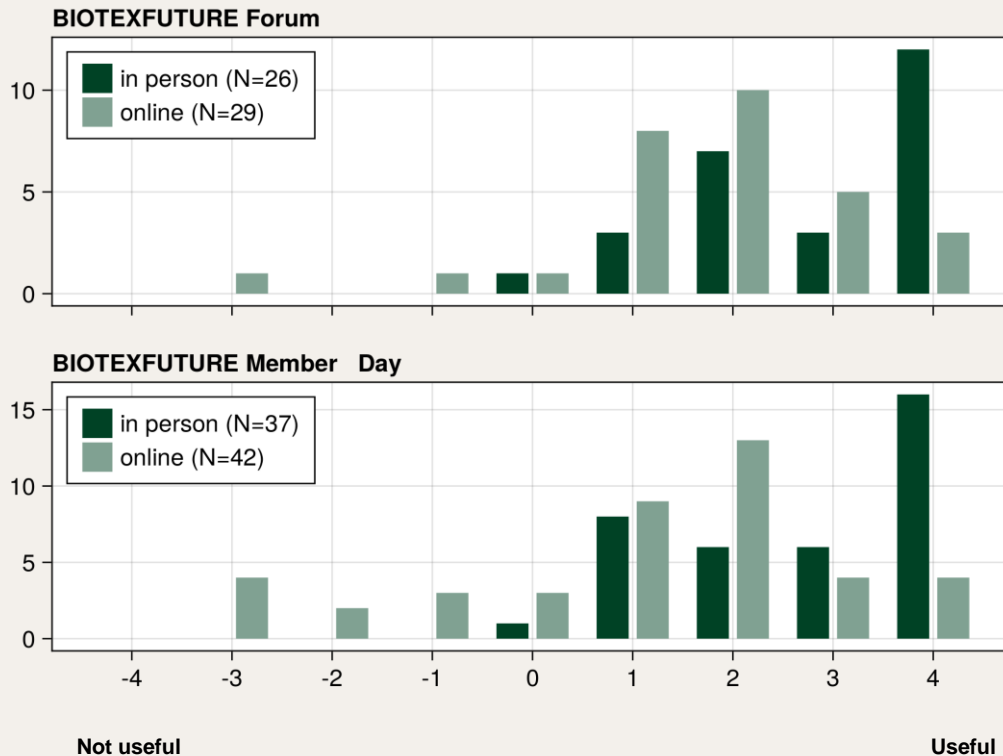
Beyond your own project, have you received inspiring input from other projects in the BIOTEXFUTURE Innovation Space?



- More than half of the members (57.35%) have received inspiring input from other projects in the BIOTEXFUTURE Innovation Space.
- The more a person requests and receives knowledge from others (indegree), the more likely this person reported to have gained inspiring input.
- A respondent wrote: “Inspiring input for new resources, materials and new technologies regarding innovative textiles and applications. Also, new personal contacts for a network of business partners.”

Q5. THE BIOTEXFUTURE EVENTS

How useful do you think the online Member Days/
Forums have been to this date?

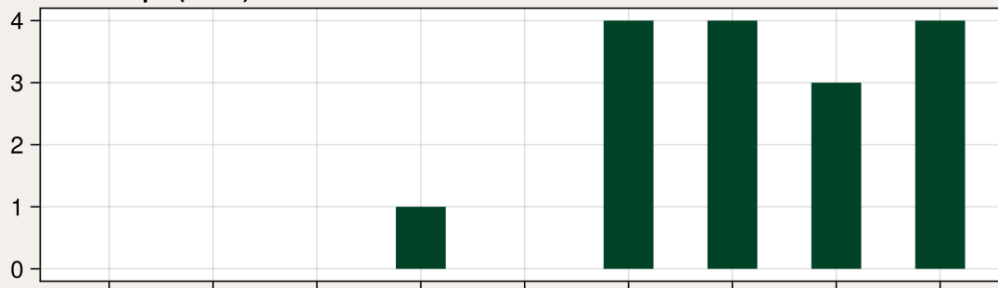


- A total of 47 participants have attended a member day, and 33 have attended a forum.
- Overall, both event types were rated very positively, with a few skeptical views on the Members Day.
- The in-person events were perceived as more useful than the online events, although this difference is less obvious for the Forum than for the Members Day.

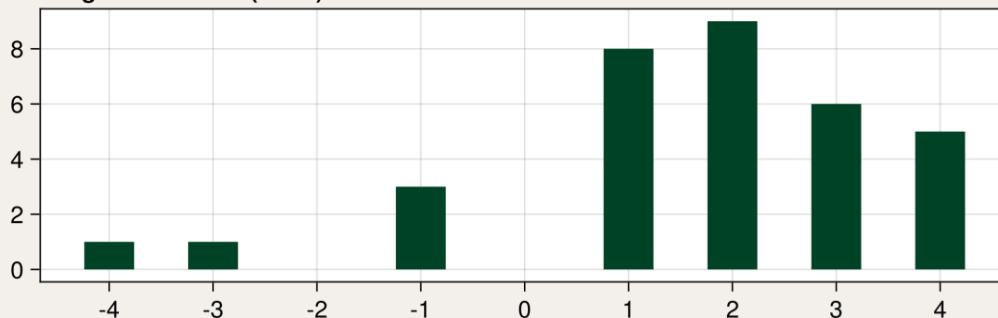
Q5. THE BIOTEXFUTURE EVENTS (CONTINUED)

How useful do you think the Workshops/
Insights Sessions have been to this date?

Workshops (N=16)



Insights Sessions (N=33)



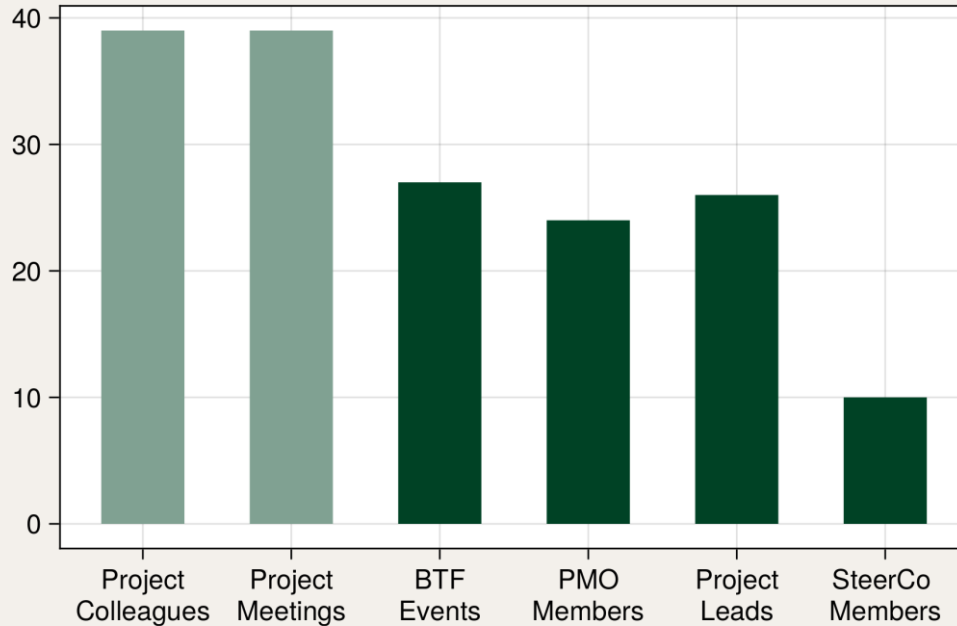
Not useful

Useful

- A moderate number of 17 participants have attended a workshop, 37 members attended an Insight Session.
- Both formats are generally perceived as useful, even if the spread of the workshop is lower.

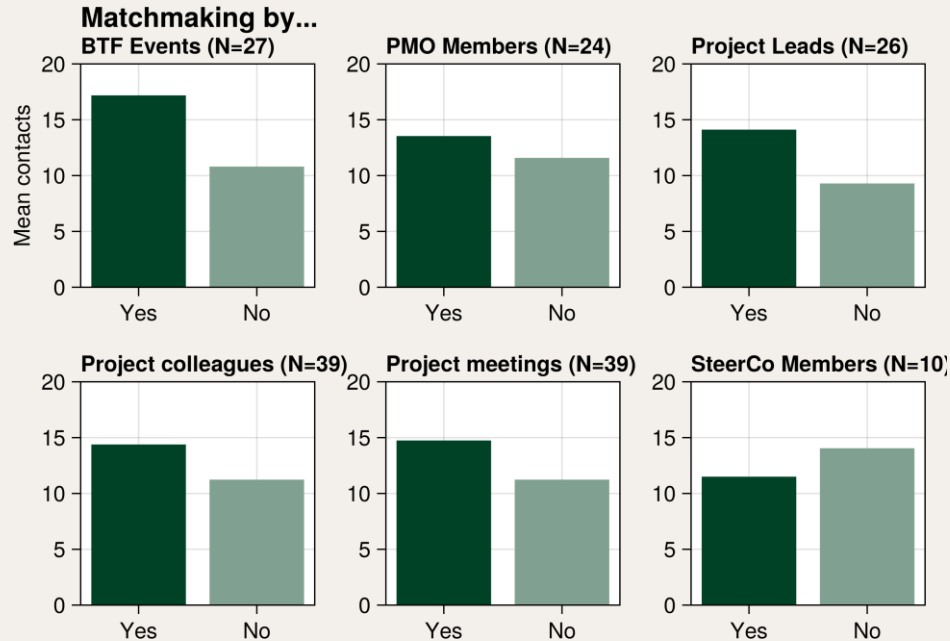
Q6. YOUR OPPORTUNITIES TO CONNECT

Have you made new work-related contacts through any of the following opportunities?



- Members found new contacts through their project work and meetings, but also through the initiatives and intermediation by the project governance.
- The project governance, including organized BTF events, the PMO, Project Leads and the SteerCo, is the biggest driver for networking, as it has facilitated 80 new contact opportunities.

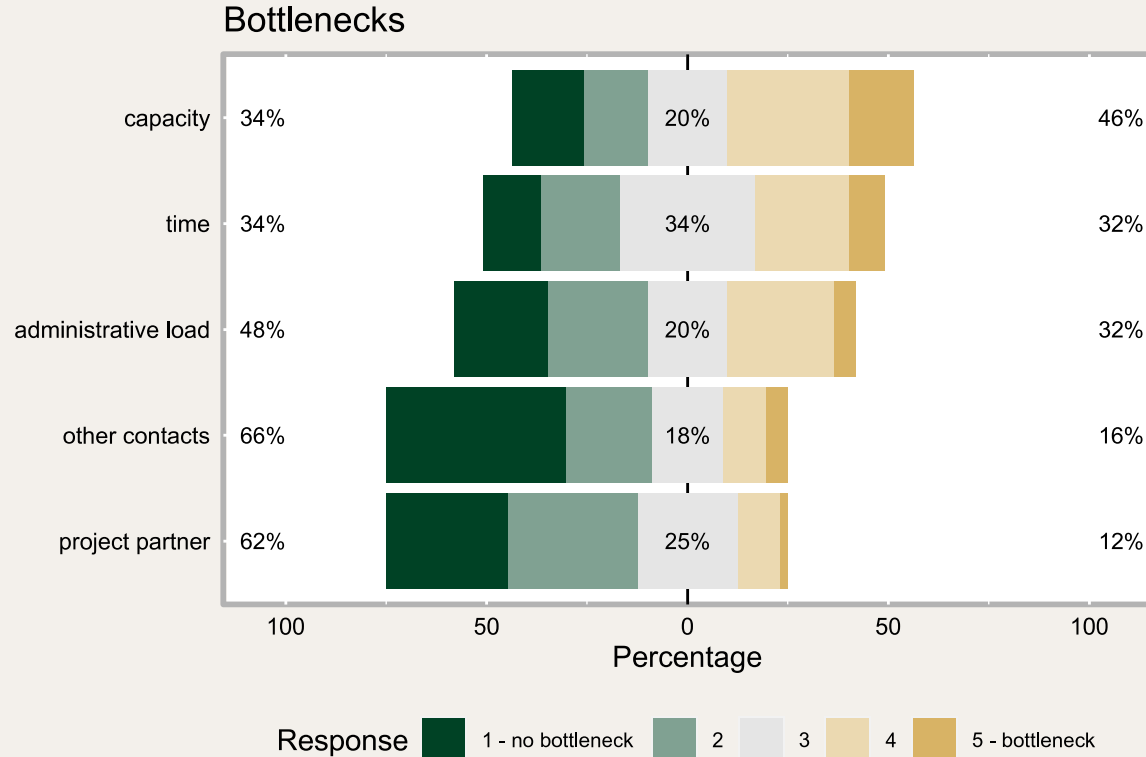
Q6. YOUR OPPORTUNITIES TO CONNECT (CONTINUED)



- People who participated in events and who engaged with colleagues and project governance (PL, PMO) have more contacts in the knowledge network.
- Only at the level of the SteerCo, there has been no effect on networking.

Q7. YOUR VIEW OF THE PROJECT

To what degree have the following items posed bottlenecks in the completion of your project?



- Members reported that time, capacity, and admin load were the dominant sources of bottlenecks in their projects.
- Conversely, the majority of members did not perceive contacts to project partners in their project or to other people beyond their project a bottleneck.

CONCLUSIONS



- After three years of operation, members of the innovation space have been satisfied with their contacts in and outside the projects.
- Yet the pursuit of diverse goals such as the research publication and the patent, restrains more effective exchange and collaboration.
- Most collaborators reported that their benefit equaled or outweighed their efforts, especially those who committed more time to the project.
- The majority of members reported that they received inspirational input from other projects. Such inspiration is more likely the more people share knowledge with others, also across the confines of their own project.

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Please reach out for full report,
feedback and questions to

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