









# FAST EXPERT TEAMS

09/2019 -08/2021



Greenreality

# SUMMARY

Fast teams as catalysts for Greenreality Network development (Nopeat tiimit Greenreality-verkoston katalyyttina) project was financed by European Regional Development Fund from September 1, 2019 to August 31, 2021. This report showcases the results of the work conducted by researchers of LUT University School of Business & Management in cooperation with the Greenreality Network (GRN) in South Karelia region, Finland.

Fast Expert Team (FET) is a new form of organizing interorganizational collaboration in temporary expert teams on digital community platforms. Within FET research LUT scholars studied and supported Greenreality Network's companies in complex problem solving such as internationalization. Several concrete company cases are presented in this report. FET concept can be applied in different types of interorganizational collaboration for innovation, EU funding applications, knowledge co-creation, technology management, and transfer.

The reader of this report can also find examples of engagement in researcher-student-company collaboration and matchmaking, processes of co-creating EU funding applications, Greenreality Network's digitalization journey, and other future opportunities.

We hope that regional networks across sectors will benefit from our project learnings and apply those for their future business growth, sustainable solutions, research, and development.



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# WHAT ARE THE FAST EXPERT TEAMS?

Fast Expert Team (FET) designed by LUT University Business School and applied with the regional innovation network Greenreality is a new form of organizing cross-boundary collaboration in temporary expert teams on digital community platforms. Within FET research LUT scholars study and support companies in complex problem solving, innovation, R&D, knowledge transfer & co-creation in interorganizational collaboration, internationalization, technology management and transfer.



Facilitated, short-term co-creation process on a digital community platform gives you a possibility to acquire quickly and efficiently new knowledge in a form of ideas and views of other experts.

# 02. A gateway to global networking and community of experts

Digital university-industry-public sector collaboration together with the Solved platform and its international sustainability networks.

# 03. Learning experience

A learning experience of building digital go-to-market strategies or developing innovative solutions to complex problems.

# INTERNATIONAL OPPORTUNITY CREATION FOR GRN COMPANIES

# Case Soletair Power

Soletair Power is a Finnish startup with a Power-to-X innovation, improving indoor air quality by capturing CO2 and converting it to synthetic renewable fuels. In November 2020 the startup was looking for a customer for its radical innovation. Due to Covid-19, the market situation had changed dramatically the business operations of the startup. The borders remain closed, countries issued different regulations and it was not possible to visit customers physically anymore to negotiate, build trust, showcase physically the technology and then pilot it, as it was initially planned before the pandemic. Many companies turned up into similar situations and the only way was to rely on digitalization, where the pandemic gave a push.

By using advantages of digitalization and platform economy, the CEO of Soletair Power received a proposal from the Greenreality Network and LUT research group to try out a new form of digital fast temporary organizing on a digital community platform of cross-disciplinary experts, Solved, in order to support the startup in finding a pilot customer.

# The process of organizing in a FET

The collaboration and collective action process to solve the customer's problem started in mid-November-2020 with internal meetings to understand the customer's challenge in depth. The challenge was to find a pilot building destination, where the technology can be installed.

In the first meeting, the research group formed the core team and defined the roles of internal team members: two facilitators, one action researcher with internal perspective and one customer. Also, from the start of the project we involved the manager of the regional network and three research group members for observation and reflection on the process.

One of the first-hand tasks was to define the problem, business objectives, priorities and to make all relevant info visible on the platform. The discussions in the core team were on topics such as e.g. where to pilot the innovation, which type of customers to address and how to find those.

At the second stage, the team started to brainstorm for potentially interested experts. The team came out with a long list of prospective partners whom to contact, defined who contacts whom and then started to organize matchmaking meetings.

Going global digitally: disruptive P2X technology for Indoor Air Quality



# Case Soletair Power

Previous contacts and relationships played a major role to get the right experts interested. However, also personal interest and related expertise had an important role in gaining commitment from the experts. Through the Solved platform and external networks, the team found the right experts from industry and academia. The facilitators and members of the FET connected with experts and networks both internationally (Germany, Spain, India, Singapore, South Korea, China, USA), as well as on the home market in Finland, who could link Soletair Power technology to the pilot building. External experts got interested with a purpose to get to know the innovation, see if there is an opportunity to conduct new research or support the sustainability benefits of cities, appropriately.

The contacted researchers shared actively knowledge and academic papers and pointed out that a potential study could be conducted collaboratively.

Through the open workshop, promoted to a wide audience with a purpose of connecting different experts to the challenge, the FET created an ideation and open knowledge sharing environment, within just two hours!

Results from co-creation workshop can be accessed here:

Workshop results

While engaging in networking on the community platform and beyond, the team learned that the market for startup's innovation did not exist yet. The initial goal of the company reshaped through learning with the vast digital network, third-party trust, and co-evolved into opportunity creation for internationalization.

During the project on a timeline of roughly 2,5 months (see Figure 1 of FET actions) about 10 pilot customers were recognized and initially engaged. Co-creation happened as a combination of on-demand expert advice, and a set of collaboration, ideation, and co-creation tools. In total, 20 experts joined the temporary project space on the digital platform. There were more than 100 of insights discussed and 10+ video/phone call meetings with stakeholders were made.

# SOLETAIR POWER BENEFITED FROM FET PROCESS BY GAINING

### **VISIBILITY**

**CRITERIA FOR PILOT CUSTOMERS** 

**A LIST OF PILOT CUSTOMERS** 

**NEW INVESTOR CANDIDATES** 

INSIGHTS FROM RESEARCH & PRACTICE

16.11. – start of FET, collecting materials, planning the concept, challenge launch on Solved platform

27.11. – experts matchmaking: start of active contacting:

Nov 2020

Collaborative piloting as a strategy: Dialog between interested companies (Direct customers and HVAC providers) + researchers.

Active ideation, co-creation, knowledge sharing on platform

- Co-Creation Workshop with experts 19.01.21
- · Shared learnings and next steps
- Research interviews (Jan/Feb)

Jan 2021

 Finalizing FET project work: Experiments with pilot customers. Solved Report and suggestions for continuation with the pilot.



By mid. Feb 2021

Collection of insights from the experts.

Dec 2020

 Multi-channel communication: digital meetings, calls, emails, Solved/Linkedin contacts

# Case Soletair Power

# Examples of FET's outcomes from successful matchmaking

# **SIEMENS**

Potential co-operation sectors:

- Strategic opportunity: New headquarters of Siemens for Finland & Baltic countries in construction currently in early project development phase, estimated to be ready in three years.
- Short-term opportunity: To pilot the solution in the existing HQ office in Espoo (Finland).
- Offered support on technology level: special deal for the Siemens software -> startup licensing model = direct cost-efficiency
- Service projects for various companies/buildings: integration opportunity.
- Visit to Vaasa to see the technology.

## Better visibility:

- Promoting Soletair Power via RIL's newsletter to the members' organizations
- Invitation to one of the RIL's workshops to present the company



# Engagement in Indoor Air Quality (IAQ) ecosystem & co-innovation project

- Recognized market opportunity to apply the technology and co-innovate together with other partners (e.g. HVAC providers) in the ecosystem.
- Vision of similarity in targeting the same end customer: the office buildings, hospitals and schools are critically important targets.
- Opportunity to join big co-innovation project with Business Finland.



Recognized a market potential in utilizing captured CO2 to fuels or into products for industry.

## Identified potential pilots:

- 1) La Pinada Lab open innovation lab with focus on sustainability. The lab is looking for demonstrations of different technologies and companies focusing on sustainability. Focus on future collaborative working on projects with core partners.
- 2) Imagine Montessori School following green values.
- 3) Possibility for tech-integration in 3rd party real-estate projects.





- Potential for combined customer case: indoor air monitoring sensors + technology of Soletair Power.
- Combining the Soletair Power's technology to other HVAC technologies & systems and pilots.
- IAQ insights from top-researchers
- Insights on HVAC design, air volumes and energy efficiency
- Understanding of how to make a bigger impact: consideration of all IAQ parameters, not only CO2.

For more info: click on links below

1.Solved report on FET Soletair Power Case

<u>2.Research output - ISPIM 2021</u> <u>conference paper</u>





# INTERNATIONAL OPPORTUNITY CREATION FOR GRN COMPANIES

# Case Itula

# Digital channels to design & construction projects

The key challenge for export in digital transformation and time of the global pandemic is to identify the right digital channels. Itula's challenge was to find suitable digital channels to construction projects that will help in reaching out the target audience effectively on international markets. The company was planning to export energy-saving radiant ceiling systems to Nordic countries and Central Europe. The most interesting countries for expension were Sweden, Denmark, Norway, Germany, UK and Irland, France and the Benelux countries. The company reached out to GRN's manager and the research team to start the FET on the digital platform Solved.

# The FET process

Everything started with an introduction of company's challenge in the first online meeting, on March 10, 2021 with Itula's CEO, marketing expert, GRN manager, LUT researchers and GRN Solved platform facilitators. The first get-to-know was a starting point for creating a shared understanding of the problem and to figure out how to proceed.

As the next step, the core team was invited to the shared space on the platform and facilitators activated the discussion with questions like: What do we currently know about the digital marketing channels in the target countries? Itula marketing expert shared the basic information on the current digital marketing strategy considered for export countries.

For efficiency in proceeding with solving the company's challenge Solved platform facilitators created a three-week schedule with specified goals as visualized below:



Week 1
Create messages
Create extensive list of potential
experts
Start invitation

Week 2 Elaborate the conversation Create long list of channels

Week 3
Focus to narrowing down the challenge
Collect and combine gathered knowledge
Enrich the knowledge on focus channels

# Case Itula

# The FET process

For going further in selecting market experts, the team started collectively building the long list of the target market experts, who could be potentially invited to the project space on the platform. One of the core experts was Itula's recently hired market expert from Germany, whose task was to support the company in Internationalization. He was directly involved to the team

Next it was very helpful to start with the experts' profile design matrix, to create a shared understanding which experts to further invite, what they could potentially bring in and what were the links to the market. The example is shared here: click this link

Solved facilitators drafted also the action plan for the team, which included description of the tasks and responsible ones, expected outcomes and basic requirements (Figure 1).

Itula's marketing expert within FET shared also message for approaching the experts. This message included: company's presentation, information about the technologies, the challenge the FET was solving and what the experts would get out from participation and shared knowledge.

The value for the invited experts was a unique opportunity to participate in the FET project and join the global Solved network. Moreover, the promise was that the team would learn together about new communications, marketing channels and other markets.

Through contacting the experts, the team learned that engagement on the platform was relatively low and there was a need to change the strategy.

The key challenge behind low engagement that the team realized were different time perceptions, lack of team coordination and that building industry is still more traditional, when it comes to marketing. Marketing agencies in the building sector in such markets as France and Germany value more physical meetings with customers and physical events to make the business deals.

While contacting the experts the team learned also that invitation messages sent from the platform to several experts landed to spam and there was a missing follow-up.

Thus, to compensate the lack of engagement, the FET revised the strategy and focused on having both team and one-to-one meetings with prospective experts. In this way the timing for solving initial challenge of the company extended to eight weeks. (see Figure 2, next page)

Additionally, the FET organized an open experts' workshop to ideate and discuss potential solutions to customer's problem. Experts who joined in with insights were from the following markets: Germany, Poland, France, Spain, Finland and the Nordics.



# Figure 1. Initial plan

	TASK	RESPONSIBLE	OUTCOME	REQUIREMENTS
WEEK 1	Value promise to experts     I. Identify the right experts to be involved     Contact the experts and invite them to the project (call, mail)     Invite experts to the project and platform     Initiate discussion     Discussion participation	1. Itula 2. The whole team 3. The whole team 4. Solved 5. Solved/Itula 6. All team	List experts     Contact 20-50 experts from the long list, send Solved the	Written promise     Approach material     Long list     Questions to be defined
WEEK 2	Discuss on the channel     Interim check on progress     OPTIONAL - invite new expert to the team	Solved / Supported by Itula and FET     Solved     The whole team		Questions defined     Long list of experts available
WEEK 3	Discuss on the channel     Criginise one on one discussion     Have one on one discussion	Solved, Itula, FET team with the experts     Itula, supported by Solved - invitation to researchers	Enrich knowledge on the channels suggested in the discussions     Narrow down the choice of channels in each market     Identify the most important and useful challenges     OPTION - start identifying the right messages to each channel in the discussions	Long list of channels suggested on the platform and in discussions

# Case Itula

# The FET Outcomes

Main findings from the FET workshop facilited by Solved are presented below:

- Personal contacts and contact networks are still the most important ways to discuss new offerings and find leads.
- Personal networks of people with local market knowhow are the bases for the sales and collaboration work, especially in the building sector.
- The Central European markets are still conservative in the communications methods, thus personal contacts and physical meetings are valuable.
- There has to be a good value proposition to a new contact and then you may get an appointment.

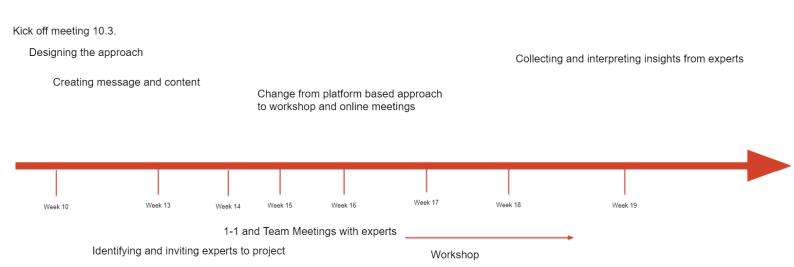
# The FET Learnings

Even though the FET did not manage to achieve the settled goal in the initially planned time-frame, there were lots of individual and team learnings. Some of them are presented below and further described in the Solved report.

- Main marketing channels used are mostly the same as in Finland: LinkedIn, Google adds; and in the German speaking world as well as France: Xing
- The Central European markets are not as digiready as the Nordic ones, so direct personal contacts play a major role. For ITULA, both designers and their networks as well as "planners" would be important contacts.
- Industry publications are important and vary from market to market. These need to be recognised and used as marketing and lead channels, and if they have events, discussion or other such "social media" should be used as marketing channels
- Speaker placements in events works well in lead generation
- Different associations/organisations are good routes for getting visibility if they share your message.

# Additional info: Solved report on FET Itula case

# ITULA BENEFITED FROM FET PROCESS BY GAINING UNDERSTANDING OF MARKETS DIGITAL CHANNELS NEW IDENTIFIED CHANNELS AND IDEAS



# INTERNATIONAL **OPPORTUNITY CREATION FOR GRN** COMPANIES

# Case Biovaaka

Food waste is a massive problem in the world both from an economical and environmental perspective. Biovaaka solutions reduce food waste substantially. In May 2021 the CEO approached GRN to try out FET approach for scaling up the business and reducing food waste in European markets.

The Biovaaka system is a solution for reducing food waste in professional kitchens. By using Biovaaka, kitchens & restaurants can cut down on their food waste by up to 50%, saving them money and reducing their environmental impact at the same time.

The FET project kicked off on May 12, 2021 with a meeting with two Biovaaka representatives, one Solved facilitator, one GRN manager and one LUT researcher (non-participant observer). From the first team get-together meeting, the key take-away was that Biovaaka needed to extend its reach and find the ways to bring its solutions to European markets. Be that partnering, sales network, local representatives and any new ideas that could be found.

More info: Solved report on FET Biovaaka Case

# WHY?

- An opportunity to make a difference in solving the global food waste problem
- An opportunity for go-to-market partnerships
- An opportunity to pilot Biovaaka

# solutions

# HOW?

- Engagement of experts to platform space due to lack of expert activity - switch to emails, phone calls and google hangout meetings
  Two team meetings with the experts (potential partners): 15.06., 17.06.
- Internal wrap-up of learnings 18.08.

**WHAT?** 



Experimenting with FET approach for digital internationalization, learning about challenges in the process.

# Collective Bricolage in a multi-level perspective

The UIR team emerged from the Greenreality Network and collaborated intensively during the short period of time. The whole project application took around 3-4 months, however very intense collaboration happened within almost one month. As the interviewees recalled:

"But, the real preparation of the application took about one month. Especially the last two weeks were really intensive." (G1-university).

"Well, I think we started...the project idea maybe came in the autumn 2016, because the deadline for the application was something like April 14, 2017. And during the autumn of 2016, we had these meetings and planning." (G3-public sector)

The process of inter-organizing in the UIR temporary team bridges several stages, where one of the core elements identified was collective bricolage. We explain further how personal relationships, serendipitous network meeting, luck, timing and 'making do' by applying available resources at hand contributed to the bricolage from the network, team and individual perspectives.

Based on our findings, we visualize the temporary teaming process (Figure 1) and describe it in the following page.

# Urban Infra Revolution

The research group studied an interorganizational temporary project team called Urban Infra Revolution (UIR), a highly successful case of temporary teaming. This case was identified through initial round of 28 interviews conducted in 2019 with GRN members and additionally 9 interviews with the organizations and people involved in UIR application process were made.

The UIR team emerged from the GRN. The UIR project acquired large funding from the EU in November 2017 having a significant impact on the whole network and the region. temporary team involved stakeholders from the GRN for cocreating the project application. Instead of a more usual one year, the application process was carried out successfully in around 3-4 months. The temporary application writing group later evolved into a permanent project team, which was operating until the end of year 2020 and included more experts from the participating organizations.

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The process of inter-organizing temporary team of UIR bridges several stages, where one of the core elements we identified as collective bricolage. We explain further how personal relationships, network serendipitous meeting, luck, timing and 'making do' by applying available resources at hand contributed to it from the network, team and individual perspectives.

Figure 1. Temporary teaming process

### Scoping the project

- Getting acquainted with (funders') expectations and rules
- Collective sense-making

## Collective bricolage

- searching for complementarity in resources and expertise
- combining new ways of doing
- contacting suitable partners and finding the right contact person(s)
- inviting partners with the right expertise

# Setting the informal procedures

- having meetings
- collective discussions
- sharing knowledge and info building inclusive trust
- creating collective emotional
- providing mutual support
- Running the consortium relations practicing agile communication and feedback
- coordinating and administrating
- working under tight time schedule and pressure
- fulfilling funder's requirements

- attachment

months.

sharing responsibilities dividing work

outsourcing work

contributions

Negotiating

balancing partners' motivations and

geopolymer concrete he started actively talking to the experts in the local area: (G1-university), (G7industry), organization N. The discussions continued with the City's Mayor because there were potential funding instruments in the City's strategy. After visiting Brussels, the City serendipitously heard about funding opportunities and

First, the innovative idea came from individual - G5industry and is connected to the previous studies in the field of his expertise based on his earlier talks with a professor from a metropolitan university. He was very excited and to make sense of the idea to utilize

After the City's discussion (G4-, G3-public sector) with G5-industry, the team building started, by contacting familiar people from the regional university to find collaboration partners, which would have relevant complementary knowledge and resources.

shared info about the UIR program, which was coming

very timely and the deadline was in a couple of

The process of team construction started by emailing, calling partners, and asking, if they would be interested to contribute and collaborate.

G-5-industry got Organization A interested and decided to pay for the pre-study directed to the project application. Then there were negotiations with the City if the expertise of G-8-industry from Organization A can be paid further to write the application in UIR. Initially the Organization-O provided financial contributions for the regional university and Organization A, for their knowledge input to application. A part of applying available resources at hand to secure the involvement of others, it was crucial to invite partners with the right expertise to benefit collectively from the complementarity. This leads to our major finding, where we review the concept of collective bricolage on multiple levels.

# Collective bricolage on the network level

GRN functions as a meso level structure helping individuals get to know each other and share information. It was instrumental as one expert (G5-industry) met another (G8-industry) at one of the network events and was fascinated by her suitable competences that fit very well with the idea for UIR he already had been thinking of before and having earlier discussions with one professor from the regional university. The City, working closely with the GRN decided to host a meeting with the idea initiator and got interested in the need to do something about the chemical compounds problem in the local area, which are the side streams coming from local forest and mining companies. The collective brainstorming between the City and idea initiator developed further, to combine a new way of doing with something totally new that had not been done before. This was the applicability of 3D printing from local companies to geopolymer concrete for creating sustainable, environmentally friendly concrete products in the City.

## The role of organizations in collective bricolage

What is interesting to denote here is the role bricolage played in the pre-investments of bigger organizations, such as large companies and the City, in order to get the smaller companies and university experts involved.

The resources applied at this stage were secured financial contributions to get smaller companies and the regional university involved, as the interviewee explained: "We gave the funding 150,000 for the regional university in the beginning and 50,000 for the Organization A." – G5-industry.

# Collective bricolage in a temporary team

The bricolage as a collective source of energy was visible when the members of the team made collectively sense about getting companies interested and building inclusive trust.

Combining novel ways of doing, by utilizing 3D printing ideas was one of the strengths of the team. In particular, combining industrial side streams with VR-tools and design elements enhanced the potential of the idea to generate a high impact and promising collectively expected outcomes.

During the process was also observed that the team shared responsibilities, divided the work, had meetings, provided mutual support to each other and there was a collective emotional attachment to the work to be done until the deadline.

## Individual aspects in collective bricolage

- The temporary team collected the right individuals with the matching skills and knowledge.
- The key responsible individuals were leading the process in such actions as: coordinating information gathering and utilizing personal strong and weak ties to the right experts and organizations.
- The individuals had mostly homogenous backgrounds, but complementing resources and expertise, knew the local companies specialized on the materials and brought the value from their personal networks.

# Additional info (EGOS paper publication link)

# A 'travelogue'

A Horizon 2020 application process from the perspective of university and city collaboration

A description of
1) searching and
finding a common
direction,
2) beginning to
understand a
complex whole,
3) learning together,
4) enduring
uncertainty, and
5) trusting the
process.

This 'travelogue' tells of a EU funding application process with a focus on the collaboration between LUT University and City of Lappeenranta. As a travelogue, it describes the "analytical journey" the researcher made while studying the process, the observations and the impressions and thoughts it stirred in a person who is not daily operating with EU funding applications. It is a process description of what it can be to prepare a funding application across organizational and country borders with a tight schedule.

The text gives a layman's perspective to R&D project funding preparations and application processes from start to finish and the "post-hoc wisdom" afterwards.

The wish is that this travelogue-style narrative will help people associate and engage with project application rounds, and identify and acknowledge elements that support this kind of regional and international cross-sectoral collaboration, which happens in relatively fast pace. On the other hand, the story can help to precausciously mirror what kind of risks as well as resources mitigating them one can find in funding application processes.

Go read the travelogue through this link.

# **RESEARCHER-STUDENT-COMPANY COLLABORATION & MATCHMAKING**

**Piloting GRN Solved platform** interface

Workshop on digital collaboration tools, see video

Knowledge-**Management** students & GRN: researchers concepts for studentscompanies collaboration development

researcher' <u>campaign</u>: **22 LUT** offered over 70 hours for consulting companies, see **YLE News** 

**GRN** 'Call a

**Conceptualization** and later successful integration of Jobs&Tasks feature on GRN Solved platform

**GRN** infopackage for studentscompanies collaboration

02/2020

05/2020

09-10/2020

**IVH Kampus digital career** event for students: Miradore presentation on Solved platform

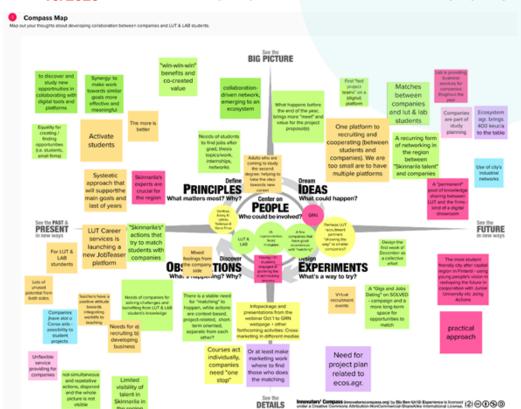
Introduction of Firmatimi on GRN Solved platform

13 GreenExpert stories

**Concept preperation draft** "South Karelian student consulting days"

02/2021

02-04/2021





More info:

Fast Teams developing collaboration: Satu Vesin's interview (in Finnish)

EXAMPLE: Collective sensemaking workshop held October 6, 2020 to follow up on initiating collective action to catalyze the students-companies collaboration in GRN network: with TalentHUB, Business Mill, LUT & LAB Career Services.

# RESEARCH OVERVIEW

# Research as the underlying stream of actions in the project

As evident so far, this project touches ground with research focusing on temporary organizing, cross-sectoral and international collaboration and R&D management among many other disciplines. This page showcases the underlying research actions put into effect from 2019 to 2021. Since research is a longer term project, more practical implications from such efforts will follow in the future.

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# **Interviews**

Number of interviews conducted for the project

- 2019: 28 GRN. 9 UIR
- 2020: 13 GRN, 15 FET Korona, 14 FET Data Economy Boardroom, 11 LUT/City
- 2021: 12 FET Soletair, 4 FET Itula,
   25 GRN, 12 FET Data Economy
   Boardroom, 9 LUT/City



# **Research output**

- Two Master's thesis.
- Five research conferences papers (ISPIM, EGOS, RADMA)
- One journal article manuscript submission (R&D Management)

80+

# **Observations**

Hours of onsite / online observations meetings & reflections

Approx. 80

20+

# Engagement for societal & business impact

Number of events & public actions

 20+ events (e.g. workshops on digital tools, FET pilots, pitches, board presentations)

# Timeline of data collection



Interviews with GRN members about communications

FET Soletair

FET Itula

FET Biovaaka

Teaming for EU funding: LUT & LPR city

Jan 2021

# DIGITAL COLLABORATION - DIRECTIONS FOR THE FUTURE

Digital transformation provides new possibilities to collaborate and innovate. Since the ongoing Covid-19 pandemic, organizations have explored a variety of open, digital collaborative practices as a response to the crisis. Yet, what do we know about organizations' digital collaboration in GRN? Our research captures how the interorganizational collaboration practices in the GRN regional network have changed from 2019 to 2021. It also sheds light on how Covid-19 pandemic affected the collaboration in the network and what are the possible directions for the future of digital collaboration.

# **Collected Data**

2019



08/2021

28 interviews with GRN members, all interviews analyzed

16 interviews with GRN members, analyzed by August, 31: preliminary findings

# 2019: Digital collaboration: insights, awareness, perceptions and uncovered possibilities

Back in 2019, it seemed that understanding and experience of digital tools in GRN was quite different. Yet, there were a couple of visionary perspectives, such as having a platform for collecting ideas and co-development of solutions, running research projects, as well as doing planning and online meetings more efficiently.

Many GRN members associated the digital tools with their daily business: e.g. technical tools, data management, product development, R&D tools and virtual technical tools.

Digital communication tools were seen as a gateway to the network. They were considered to be highly relevant for GRN in terms of social networking, finding resources, communication, and collaboration.

67% of respondents saw the benefits from digital collaboration. Digital tools were seen as enablers, first of all enabling a simple way of communication, saving time and increasing efficiency, providing easy access, and sharing the possibility of any type of information. However, the understanding of digital collaboration was still underdeveloped and required some education and time-investments. There were several skeptical perspectives as well, e.g. concerning: IT security, less experienced, or usability mistakes. The communication in the network was considered too slow, emails got lost and there were few discussions on potential project ideas and more intensive collaboration. These were the reasons this topic was studied.

# 2021: Digital interorganizational collaboration in time of ongoing pandemic

Due to the increased digital transformation and the hit of the Covid-19 pandemic, we were interested in understanding if and how GRN members' digital inter-organizational collaboration experience had changed in 2021 compared to 2019.

Since the Covid-19 pandemic, physical distancing measures made it difficult for some members to engage in the network as before. The network had been running regular meetings, however individual engagement in digital encounters had decreased due to the lack of time and the enforced focus on own organizational priorities, possibly also due to increasing workload during the pandemic time. Most of the organizations in GRN had to reorganize their operations and to adapt fast to the digital work environment and remote work. As one of the interviewees explained: "We are taking a big digital jump, and most people are forced into using the digital platforms..., and it won't happen if there is no pandemic which forces us to do the change so dramatically." (I3-public sector-2021)

Comparing the experience of engagement in GRN from 2019 to 2021, GRN members were missing the company visits & making new contacts. They also felt that sometimes R&D was irreplaceable with digital tools.

"It's easier to make a drawing on a table and then pointing out that 'Hey look at this\*. Or we have a 3D model and you can be in the same room and show that this here and then you can mark on the ink board... So, many things can be done virtually, but there are some things that you cannot really, how would I say, replace completely." (II-industry-2021)

From the perspective of the future, interviewees shared a common view on the involvement of GRN in other international networks that could make the local companies, the city, and the university more visible worldwide. GRN members saw also several opportunities for the future not to be missed. One of the key points, outlined by the interviewees was that digital tools only enable collaboration, and are not the sources of engagement. There are some lessons to learn and to benchmark successful networks like e.g. energy cluster Vaasa, FIMA in Tampere, which is focusing in industry simulation, AI and robotics network in Pori.

Finally, one of the most prospective areas for GRN was seen to strengthen the network's position through internationalization. The network could for example support the local actors in expansion to international markets. Or the network could take the strength from the local know-how of companies and university in the hydrogen sector, and push the area through the national organizations, like the hydrogen cluster, to the international forums.



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