



New Horizons for Applied Ethnography

Ethnography-Inspired Research at the Core of Energy Efficiency Horizon 2020 R&D Projects

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Abstract

Ethnographic methods developed in anthropology hold great promise for conducting applied, practical, and problem-based research and development in a variety of settings and contexts. Although often perceived as a time and resource consuming process and its outcomes as not generalizable due to their primary focus on individuals and smaller groups, we offer evidence that ethnography can and should form an integral part of interdisciplinary energy efficiency projects, enabling us to understand the everyday realities of people and engage them in the development processes. Therefore, this paper presents the practical implications of ethnography-inspired approaches as applied in several EU projects in the Horizon 2020 programme. It starts by describing the 4-step people-centred methodological framework and provides five case study examples as applied in the projects MobiStyle, TripleA-Reno, U-CERT, BUSLeague, and NRG2peers. The conventional and primary ethnographic method is participant observation, where researchers take part in people's daily activities, interactions, and events to learn about the explicit and tacit aspects of their work- or energy-related habits and life routines. In our examples, the use of ethnographic approaches is not only tied to experienced anthropologists, but we also train and involve professionals from other disciplines, such as engineers, architects, and computer scientists, who observe and participate in a wide range of daily activities, both routine and extraordinary, along with the people as research participants. The paper concludes with a discussion of selected experiences and gives a brief overview of future prospects.



Keywords

Ethnography, people-centred development, interdisciplinarity, Horizon 2020 projects

Main text

1. INTRODUCTION

"I talked with people!"

- a message from an enthusiastic engineer who started to apply ethnography-inspired techniques in an EU Horizon 2020 project.

As discussed by Pink, Tutt, Dainty, and Gibb (2010), ethnographic methods developed in social anthropology hold great promise for conducting applied, practical, and problem-based research and development in a variety of settings and contexts. Through iterative-inductive research and drawing on a family of methods (such as semi-structured interviews, participant observation, focus groups, fieldwork, and shadowing), ethnography enables and encourages direct and sustained contact with human actors in the context of their daily lives. By asking questions, listening, and observing what happens, we can create a rich account that respects the irreducibility of human experience and acknowledges the role of theory as well as the researcher's own role in viewing people partly as objects and partly as subjects (O'Reilly, 2005).

Inspired by the work of Pink and Morgan (2013), we argue that ethnography could be of high value when applied in non-academic settings; however, it is also often perceived as time-consuming, resource-intensive, or not generalisable, as it focuses mainly on qualitative research involving individuals and smaller groups of people. Robust ethnographic research is typically conducted over an extended period of time – months or years – and requires a type of physical fieldwork in which researchers participate in the everyday activities of their informants. Qualitative data – on research participants' experiences, values and worldviews, social dynamics and practices, etc. – are therefore recorded *in situ*, enabling a particularly rich insight into the social and environmental contexts, as well as into the evolving entanglement of various material, human and societal factors. Ethnographic research can thereby offer a potent contribution to understanding the human lived experiences, as well as their potential for change.

In this respect, our ethnographic studies in European research and development projects face a number of challenges. First, projects are time-bound and oriented towards pre-defined goals, while ethnographic research is, at least in its more traditional form, essentially open-ended, embracing methodological improvisation and potentially unexpected research outcomes. Second, the vast majority of the projects we are involved in are part of Horizon 2020 Energy Efficiency Programme, involving interdisciplinary research groups that often have no prior experience in conducting qualitative research.

As expressed by several engineers in our research teams, as domain experts they were not even used to “talking to people²¹” in their usual research practice. Last but not least, in the global Covid-19 crisis, we are forced to conduct our research online, making it a kind of “netnography”, as Kozinets (2020) figuratively puts it, relying instead on alternative methods and tools, which constitute what has become known as “remote ethnography” (see Postill, 2016; Góral ska, 2020; Lupton, 2020).

Rather than using the term “ethnographic research”, we prefer to speak of ethnography-inspired research that draws on some of its key methods – interviews, focus groups, and participant observation. Furthermore, the use of rapid ethnography, rapid assessment or rapid appraisal, which became popular in anthropological and social science research as early as the 1990s (Beebe, 1995; Harris et al., 1997; Kumar, 1993), is also relevant to our project practice as it represents a research approach that is contemporary both in its subject matter and in its application to applied research projects that aim to make informed interventions in the world (Pink & Morgan, 2013). Broadly, the essence of ethnographic inquiry remains, which is to attempt to understand people’s worldviews through empathy and embodied practices (Roberts, 2020), while attempting to neutralize the researcher’s own biases toward the research subject.

2. METHODOLOGICAL FRAMEWORK

In addition to applied, intensive, short-term, yet theoretically grounded research, our methodological framework also builds on the practical implications of the people-centred development approach, which has been developed on the basis of various research and development groups that integrate ethnography into their work. The baseline principle of the approach is to take into account people’s characteristics, needs, and expectations in order to develop more people-friendly and intuitive products, services, or other solutions. The approach was introduced by Xerox in the 1970s when developing the first photocopier (Suchman, 1987). In the 1990s, the approach was also used by Boeing in developing the 787 Dreamliner and by Microsoft in testing Windows XP. Using this approach, a group of anthropologists and other social scientists at Intel are also researching and developing ubiquitous computing and similar technologies that will be important in the future (Dourish & Bell, 2011). These types of research and development approaches use participatory and collaborative (rather than observational and detached) ethnography. They are intensive excursions into people’s lives, using both intervening and observational methods to create contexts through which to explore questions that reveal what is important to these people in the context of what the researcher is trying to find out (Pink & Morgan, 2013).

How does the approach work in our applied project practise? We iterate and build on the practical methodological implications, results and lessons learned from real case studies

²¹ Whereby »people« refers to groups of individuals, who are more commonly classified as »end-users« in technology-focused projects.

of several EU Horizon 2020 projects. These projects have shown that it is not only possible, but necessary to make a transition from an expert development process to a people-centred mindset and development process that enables the co-creation of meaningful and sustainable products and services. We divide it into four basic steps (see Figure 1). The first step is identification, where we start by defining whose problems are to be solved or who the people in focus are. In the second step we explore and analyse their needs, using and combining different ethnographic methods such as interviews, focus groups, and participant observation. In this way we learn about people's routines, practices, and habits. The third step is interpretation. Based on the research findings and in collaboration with the developers and participants of the study, we develop recommendations to contribute to and guide the design. The basic idea of people-centred design and development is that people can – and should – be involved in this part of the design process as well, acting not just as informants for the researchers, but as partners in the creative process. The fourth step, i.e., testing, ensures the optimal experience. At this stage, when we already have a prototype of the product or service, the key question is why and how – and whether at all – the newly created solutions are relevant, important, and meaningful to people. We test the prototypes with people, using a variety of techniques to assess their suitability and overall people-friendliness. Based on the results, we develop recommendations for further improvements.

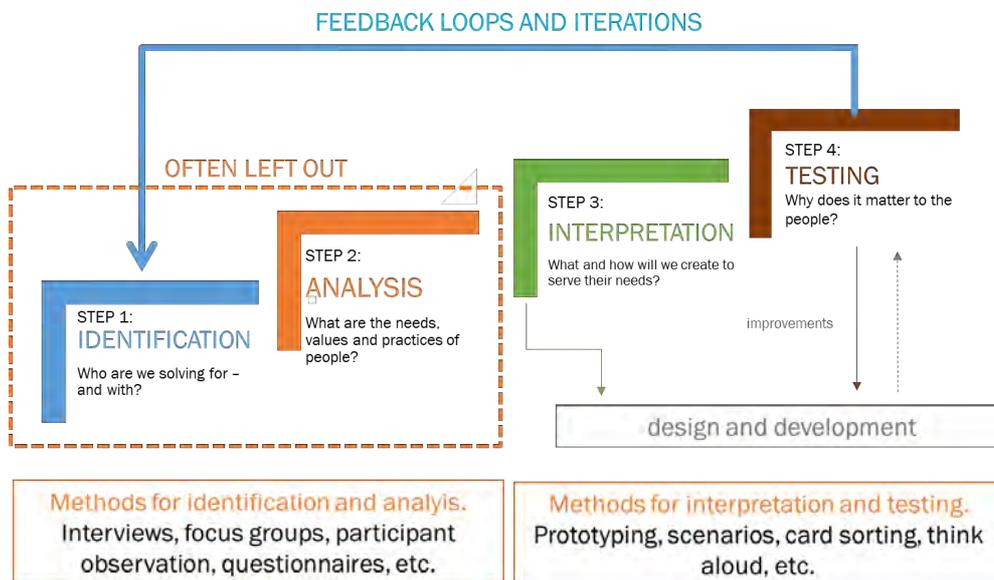


Figure 1: Four steps of the people-centred development.

3. APPLYING ETHNOGRAPHY IN INTERDISCIPLINARY RESEARCH AND INNOVATION PROJECTS

Horizon 2020 projects we are engaged in involve interdisciplinary teams across sectors (research, industry, NGOs, policy...) and across a number of European Union member



states. As these projects are primarily focusing on energy efficiency innovation in terms of technologies, processes or systems, qualitative research inevitably constitutes only a portion of the planned project activities (i.e., “work packages” and “tasks” in the EU project jargon) and a vast majority of the engaged researchers and experts come from a technical background. As relevant qualitative data nevertheless needs to inform the innovation process in all project demonstration pilots, social science researchers need to also support other project partners (e.g., engineers or architects) in delivering parts of the ethnography-inspired research. To train project partners in the respective people-centred development methodology, we organise and deliver ethnographic workshops where our participants gain hands-on experience in conducting qualitative research such as open-ended interviews, field visits with participant observation, sensory ethnography, and analysis and interpretation of data along with writing qualitative research reports. We provide project partners with methodology guidelines and a set of tools, such as reporting templates, to further facilitate their research endeavour. During the research implementation phase, we are in constant contact with our partners to support them by supervising their work, accompanying them in short-term intensive field visits, answering their possible questions, and helping them with the final interpretation of qualitative data.

3.1. MOBISTYLE

The first large-scale test of the relevant methodology in an EU Horizon 2020 programme was the MOBISTYLE project (2016–2020). The overall goal of the project was to raise consumers' awareness and motivate them to change their behaviour by providing attractive, personalised, combined knowledge services on energy use, indoor climate, health, and lifestyle through ICT-based solutions. In the project we tried to shift the focus from buildings and technologies to people. We sought to understand how people interact with buildings, tools, and appliances at home and at work, how they use energy throughout the day and how we can change and influence their lifestyles through the use of technologies and non-technological means. In the project, we relied on ethnography as a type of research that explores routines, habits, and practises through qualitative approaches. These approaches allowed us to gain a deeper understanding of human behaviour, to go beyond the quantified behaviour of *Big Data* collected through technological solutions, and to provide insight into Thick Data (Wang, 2013; Pretnar & Podjed, 2018; 2021). For example, using ethnographic methods, we evaluated effectiveness of energy saving campaigns in five demo cases: a neighbourhood in Denmark, a smart city in Poland, smart university buildings in Slovenia, a hotel in Italy, and an office building in the Netherlands. The findings from the ethnographic research were synthesised into sustainability recommendations (see Figure 2), which were, in collaboration with developers, engineers and other experts, tailored and adapted to different scenarios, characteristics of buildings and their occupants (Tisov et al., 2017).

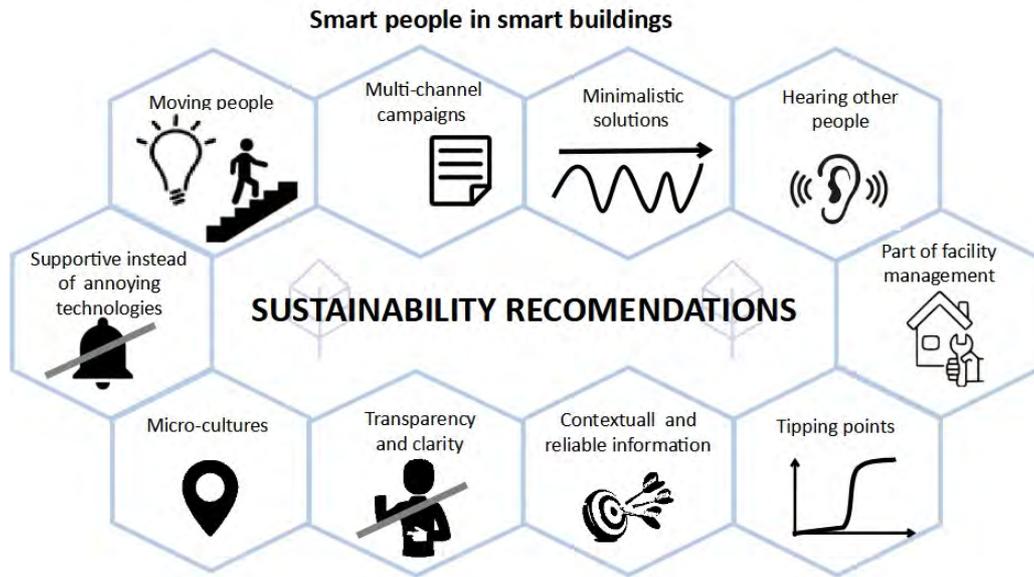


Figure 2: MobiStyle Sustainability Recommendations

3.2. TripleA-Reno

The first iteration of the proposed methodology was delivered in the EU H2020 project TripleA-Reno (2018–2021) – in which it was already recognised as an integral part of several tasks and not just an add-on to the project when submitting a project proposal, in order to emphasise interdisciplinarity. We challenged the initial understanding that “buildings consume energy” (and not the people who live or work in them) - an assumption that is still prevalent in energy efficiency discourse. The technical potential scenario assumes that energy efficiency technologies are suitable for all building configurations, are infinitely available or below the cost under consideration, and pose no economic, social, or psychological risks that would discourage consumers or organisations from adopting them. Within this arena, people implicitly act as producers of energy service needs and as economic agents who evaluate and purchase goods in terms of the cost-effectiveness of their expected future energy savings (Moezzi et al., 2009). In this sense, people are not seen as creators of improved energy use, but rather as disruptors or barriers to such improvements because they are unable to understand what is in their best interest. The result is a set of top-down views of people and energy that are unable to recognise heterogeneity, social organisation, or interests beyond energy and economic rationality (Moezzi & Janda, 2014).

To understand how human behaviour affects energy demand and the acceptance of new technologies, the “energy studies need social sciences” (Sovacool, 2014). The sociological, psychological, and anthropological theories, together with their research and analysis methods, can provide a measurable improvement in promoting energy conservation, which is influenced by both behaviour and technology. As D'Oca et al. (2017) argue, the solution is to incorporate the social sciences and humanities not simply as an afterthought

in a physical context, but as an “equal partner” (Cooper, 2017). With this image in mind, the vision of the TripleA-Reno was to promote widespread energy retrofitting of the existing European housing stock and to empower individuals and communities to engage in such developments. The first phase of the project aimed to improve understanding of different contexts and processes of energy renovation. To achieve this, several case studies were carried out and investigated in different EU member states. As the focus of the TripleA-Reno project was on end-users (i.e., the building occupants) and other actors involved in retrofit activities, qualitative ethnographic methods were used to analyse and explain how specific contexts influence the respective processes. The analysis and cross-comparison of results from different case studies portray the complexity of renovation processes by taking into account the everyday realities, motivations, and problems faced by all the actors involved (for concrete results see Cerinšek et al., 2019 and Prati et al., 2020).

3.3. U-CERT

The main aim of U-CERT is to introduce a next generation of people-centred Energy Performance Certification Schemes – systems of methods and tools developed on the level of individual EU member states as a result of the Energy Performance of Buildings Directive²² promoted by the EU commission. EPC schemes are best known for their end result, which is the Energy Performance Certificate (EPC) – a document describing a building’s energy performance. The U-CERT project seeks to make these documents more holistic, cost-effective, reliable, of better quality, and perhaps most importantly, more people-friendly.

In U-CERT we were primarily interested in the experiences of both experts in the field of energy performance certification as well users of the EPC products and services to define potential improvements and developments of the future EPC concept. Following a familiar set of ethnography-inspired qualitative research methods, U-CERT engaged 162 people from 11 countries²³ in a number of research activities (91 semi-structured interviews and 9 focus groups). With the specified goal-oriented focus of the research, we gathered a large quantity of qualitative data and categorized it, with accordance to the research goals, in the following sections: (1) perceptions and attitudes towards the existing EPC schemes, (2) people-friendliness, (3) quality, (4) cost-effectiveness, (5) wide base support, and (6) comparability.

²² The Energy Performance of Buildings Directive (EPBD) is a legislative framework that promotes policies aiming towards high energy efficient and decarbonised building EU building stock by 2050, support sustainable investments, and enable environmentally responsible consumer choices. https://ec.europa.eu/energy/topics/energy-efficiency/energy-efficient-buildings/energy-performance-buildings-directive_en

²³ These are Bulgaria, Denmark, Estonia, Spain, France, Hungary, Italy, the Netherlands, Romania, Slovenia, and Sweden.

The outcomes can be summarized in two groups. The first group characterizes the strengths and weaknesses of existing EPC schemes. Most intriguing among them is perhaps the gap between the declared (theoretical) purpose of EPC schemes and how they are perceived in practice. While EPCs are being described as an instrument to “contribute to enhancement of the energy performance of buildings” and “improve the energy performance of the building to the owners or tenants of the building”²⁴, practice shows they are predominantly seen as an unnecessary cost and administrative necessity²⁵. The reasons for such characterisations were located primarily in deficiencies of the supporting systems, which include lack of quality control, lack of promotion, and an imbalance of costs, benefits, and effects related to the existing schemes.

The second group of outcomes focuses on potential improvements. These include enhanced people-centred features and design of the EPCs, digitalisation of the scheme, integration with parallel concepts, tools and technologies (BIM, Energy Audits, SRI etc.), improving coordination and communication of the involved stakeholders, ensuring support from a wide base of potential users, and aspects of knowledge, education, promotion, and marketing (see Figure 3). Results from U-CERT qualitative research will guide future developments of the EPC concept from the perspective of the people who ought to use EPC products and services in their daily life and were verified by researchers working on six other sister projects²⁶. This will encourage the development and application of holistic people-centred innovative solutions and steer decision-making towards investments in (deep) renovation of buildings and an environmentally conscious life.

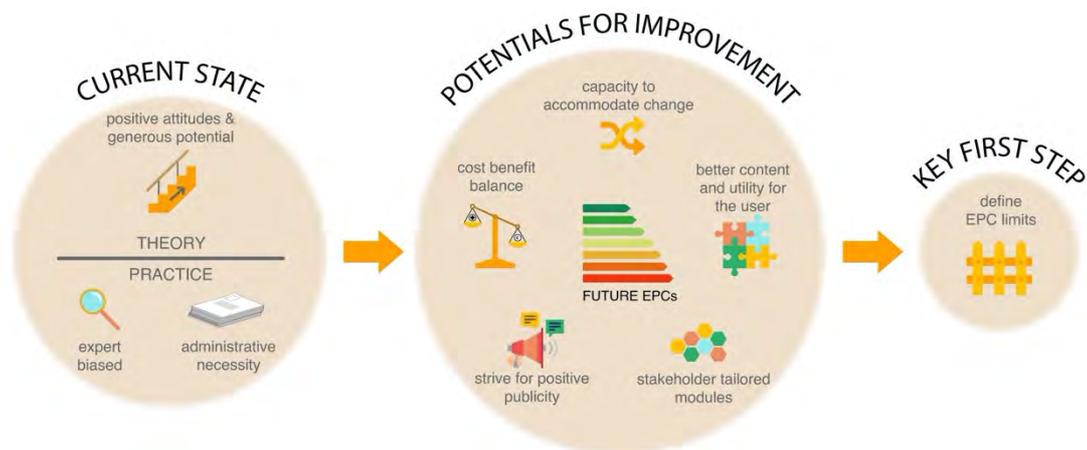


Figure 3: U-Cert Improvement Recommendations

3.4. BUSLeague

²⁴ See: https://ec.europa.eu/energy/eu-buildings-factsheets-topics-tree/energy-performance-certificates_en

²⁵ For more information see: <https://u-certproject.eu/proceedings/epcertificates-people/>

²⁶ See: <https://u-certproject.eu/news/recording-web-workshop-u-cert-building-energy-perf/>



The BUSLeague EU H2020 project (2020–2023) is dedicated to stimulating a demand for sustainable energy skills in the construction sector and in this context the methodology helps us better understand the relations between the concept of Sustainable Energy skills and how they relate to everyday lives of people active in the construction sector – also providing new insights into the social, cultural, and material realities of the construction sector. We are especially interested in ways how knowledge, education, and work are experienced by the professionals and key stakeholders working in the sector. Better understanding of everyday work-life processes of individuals, businesses, and institutions working in construction, while focusing specifically on education and training, will help us work towards understanding and stimulating market demand for BUSLeague solutions.

By including a wide scope of different stakeholder groups into the analysis, we aim to collect insights into value(s) and expectations regarding recognition and appreciation of expert work and skills. That will enable us to approach challenges, such as acting at market level, supporting legislative changes that will stimulate the demand for energy skills, and perhaps most importantly, to address the barrier of motivating the majority of the construction sector workforce – both white-collar and blue-collar professionals – to upskill according to technological and knowledge advances in the sector. (Figure 4 demonstrates the BUSLeague “ethnographic compass” integrating project objectives and interrelated tasks.)



Figure 4: The BUSLeague Ethnographic Compass.

3.5. NRG2peers

The NRG2peers project aims to support the uptake of a next generation of European peer-to-peer energy communities, by collecting experiences from operative peer-to-peer energy communities, providing smart demand-response mechanisms to optimise energy consumption and peak demand at the community level, and adopting community-based nudging mechanisms for peer-to-peer transaction of renewable energy. Ethnography-inspired research is strongly embedded into the project research and innovation activities, involving qualitative research in nine existing pilot energy communities in four regional ecosystems. It lays the foundation for understanding how the next generation of people-

centred energy communities could look like, focusing on specific (national or regional) drivers, barriers and interpretations of reliability, people-friendliness, and cost effectiveness.

The key idea of ethnography-inspired research in NRG2peers is to understand the perspectives of various stakeholder groups around energy communities and to include them in making and improving the set up and uptake of energy communities. Qualitative research will not only provide national guidelines and recommendations for a holistic people-centred support mechanism and its relevant value propositions, specifically usable for motivating and engaging future members of energy communities but will also strongly contribute to the project's technical outputs – a gamified platform to support residential energy communities in increasing energy efficiency and integrating a higher share of renewable energy.

4. DISCUSSION

The socio-technical dimension of energy is the reason that, apart from the challenging technological innovation which is required, there is a number of different energy practices (individual, household, community, policy, market) which interact, coexist, and are often in ambivalent relation. Energy is therefore as much a social substance as a purely “material” one (Forde 2017) and energy use, as well as the use of energy-related technologies, is to a large degree socially constructed and influenced by societal norms and routines, and our everyday practices, which also determine our ability and willingness to change those patterns (Heaslip & Fahy 2018). And change in behaviour, practices, or values is often required to support a just and faster-paced energy transition.

Social sciences and humanities (SSH) have not been oblivious to matters of energy and there is a fast-growing corpus of research available. Likewise, energy and ethnography have been in a long-lasting relationship and anthropologists have been exploring how energy is generated, used, or conceptualised (see e.g., Watts 2019 for an in-depth account of renewable energy on Orkney islands). Nevertheless, the trickle down and sideways in terms of mode, intensity, and scope of integrating SSH knowledge and methodology into technology development and innovation processes has been somewhat slower. SSH is still predominantly regarded as a means to orient the market and encourage individuals to accept a top-down policy, technology, or process, and this is further illustrated in the ways in which the Horizon 2020 energy calls are fundamentally framed and positioned (Sonetti et al. 2020). Yet a fuller integration will be crucial to achieve the desired impacts: provide technological solutions that stem from and respond to the needs of their intended users or enable the required change in everyday practices, or to support the emergence of new energy communities by an orchestrated cooperation on household, local, regulatory, and institutional levels. Energy technologies have to be meaningful, relevant, and desirable if they are to be accepted, widely adopted, used properly and continuously.

Integrating ethnography-inspired research into the predominantly technology-oriented Horizon 2020 projects, while co-developing in an interdisciplinary and collaborative



fashion a people-centred approach as a *modus operandi* of the project innovation and development process, has therefore been a contribution in embedding social science expertise and methodology more firmly into a specific European energy research arena. Due to the nature of the projects, most of the project partners we worked with had limited prior knowledge of social science in general and anthropology in particular, and its theoretical, methodological, or applied implications. This inevitably posed a number of challenges, in terms of transferring qualitative research methodology, ensuring quality of research, and overseeing simultaneous research activities across a number of EU member states. However, the collaborative process also resulted in a number of positive impacts and unexpected “side-effects”. In addition to the relevance of research results for the overall project outcomes, as well as their theoretical and practical insights, the research approach has contributed to demonstrably strengthening the interdisciplinary skills and capacities of the engaged researchers and practitioners.

One of the tangible impacts on project partners was the acquisition of new knowledge about social sciences and the added value of a people-centred approach to research and development in sustainable living, energy efficiency, and building skills. They reported greater awareness and understanding of what anthropology and ethnography can bring and contribute to understanding and solving specific project-related challenges. In addition to this awareness and understanding, these newly ethnography-inspired *humanistic engineers*, as one of them now refers to themselves, are empowered to act as ambassadors for the people-centred approach in innovation and development. In words of an engineer involved in MOBISTYLE ethnographic research, “now I often take on the role of an ‘interpreter’ between social science and technical or engineering experts in interdisciplinary project groups to facilitate interactions and build bridges towards common objectives.”

In addition, the opportunity to gain practical experience of working with people-centred approaches triggered certain changes in the mindset of the experts who were involved in the research. An architect involved in the ethnographic research in the TripleA-Reno project described his experience by stating that “*if you involve people in the design process from the beginning, you can avoid problems later on and produce something that these people are more likely to accept*,”. It is not enough to ask people directly what they want and need, but to spend time with them in the environments and contexts in which they are expected to use a new product or service. For partners coming from different research backgrounds (especially for engineers and software developers), going into the field with social scientists and learning about their methods in practice proved to be a potent way of raising awareness of the added value of these methods. “*They went to the people, talked to them, they were enthusiastic about it*,” concluded a manager of a partner organisation involved in the BUSLeague project.

As reported by some of our industry project partners, the people-centred approach promotes a holistic view that goes beyond customers and passive consumers to include the perspectives of different stakeholders, including the companies themselves. It starts



without predefined assumptions, asks broader, open-ended questions, delves into the everyday lives of people and organisations, and gathers large amounts of information that can challenge companies' initial assumptions. Using this approach allows companies to tackle problems in ways they cannot (yet) imagine; it allows them to look beyond the surface and uncover the part of the iceberg that lies beneath the surface, e.g., while the roll-out of smart metres may seem like a simple and predominantly technical task, qualitative research can show that it may involve various cultural biases, perceptions of new technologies as control mechanisms and possible resistance, or – as shown in the MOBISTYLE and other projects – have social implications in terms of energy inequality, etc.

The approach discussed in this paper builds on and is comparable to certain existing methodologies for eliciting needs and requirements of people, such as user- or human-centred design (see Kumar 2013; IDEO 2015), design anthropology (see Pink, Ardevol, & Lanzani 2016) and rapid ethnography (see Beebe, 1995; Harris et al., 1997; Kumar, 1993). Still, what is original in the approach compared to the existing frameworks is in the way it aims to connect and integrate different theoretical paradigms and research disciplines (notably anthropology, sociology, engineering, architecture, and computer science) into a genuine transdisciplinary journey in which non-anthropologists also conduct qualitative research and in which non-academic representatives start to consider and use ethnographic data as the key starting point of the product & service development process.

Several most recent strategic agendas of the European Union (e.g., EU Green Deal) indicate a rapidly growing awareness that understanding people should become an integral part of the development processes if we want to achieve new categories of products, services, interventions, or business strategies that fundamentally address people's needs and lead to sustainable innovation. As a university-based institute in charge of enhancing interdisciplinary collaboration between faculties and research domains within the University of Ljubljana, the application of the people-centred development methodology can be considered as a sustainable business model that has provided several long-term university-business collaboration and technology transfer opportunities (as indicated in previous parts of this paper) – applied in relation to national bi-lateral industrial development projects and European research projects in general. These opportunities are evident especially through existing Horizon 2020 and forthcoming Horizon Europe calls for projects, demonstrating that there is a growing need for inter- or transdisciplinary approaches, which enable an efficient integration of social sciences and humanities into more technical, energy efficiency projects. This is also indicated through several evaluation reports that the project proposals have received with regard to the people-centred development methodology and approach:

“The interdisciplinary approach is well-defined as the consortium includes a dedicated partner with strong expertise in anthropology and clearly defines the best strategies to effectively manage the users' long-term engagement.”,



“The innovation potential is excellent, replacing the usual top-down user-consideration with a bottom-up co-creation approach. A key principle of the project is a bottom-up, people-centred approach. This is very good.”,

“The extent to which the consortium brings together the necessary expertise is excellent. The participants bring together all the required expertise in the fields of energy, e-mobility, ICT and social sciences.”

“The use of stakeholder knowledge is excellent. The project builds on a people-centred development approach to smart cities and communities which puts citizens ‘in the driving seat’. This is excellent.”,

"Consortium is well balanced and complementary, providing a wide range of required competences, with special focus on applying social sciences and humanities methods to engage users/stakeholders throughout the project, which is good."

5. CONCLUSION

By iterating on our methodology in the five projects described above, the method has become even more integrated in other projects from the EU H2020 programme, including DRIVE-0, reMODULEES, INFINITE, and will also be part of the CrossCERT and REMARKABLE projects starting in September 2021. It also found its way into Erasmus+, an EU programme designed for transfer of skills into pedagogical processes. Projects Active8-Planet, UCITYLAB, HAPPY, and Urban Boot Camp all include the people-centred development approach, as well as other R&D projects connected to development of people-friendly and sustainable products, e.g., DriveGreen and Invisible Life of Waste (Podjed, 2019).

Integration of the people-centred approach into energy efficiency projects and industrial processes is, however, not the end of the road for applied ethnographic research. In the coming years, the approach should be further developed and adapted to global challenges, especially those related to sustainability. In the next EU Framework Programme, Horizon Europe, the next necessary step should be taken, i.e., a transition to a planet-centred approach along the lines of UN Sustainability Goals. The new approach should put people at the centre while addressing crucial environmental challenges and contributing to industrial competitiveness which will be based on the principles of sustainability. The approach will thus contribute to one of the main tasks of Horizon Europe, namely climate change adaptation, including societal transformation. In the Active8-Planet Knowledge Alliance project we will experiment with the “planet-centred” development methodologies that integrate four key principles: (1) People-centred design and development (involving people in the research & development processes); (2) Interdisciplinary and Intergenerational Co-creation (collaboration across disciplinary boundaries and intergenerational collaboration to support new forms of solidarity and transfer of knowledge and experiences between different generations); (3) Environmental Ambition & Action (addressing environmental problems – the environment is understood as a key stakeholder in the research and development process); (4) University-Business

Collaboration (what is important is that non-academic partners are not seen as clients but rather as equal partners in the research and development process).

We expect that ethnography in industrial settings will be upgraded in the next steps by combining it with quantitative approaches, e.g., Big Data analyses, to understand society and people in a more holistic perspective. Moreover, the new ethnography-based approaches, such as remote sensory ethnography (Pink 2015) and circular mixed-methods (Pretnar & Podjed 2018; 2021), will accelerate the otherwise slow-paced ethnography, which is also the main complaint from industry: "*Ethnography takes too long!*" It is critical that anthropologists and other social scientists doing ethnography participate in interdisciplinary and transdisciplinary projects not just as marginal observers but take on leadership roles that will elevate the contribution of ethnography beyond anthropology and other social science disciplines. Consequently, ethnography is not seen as an "appendix" of development projects, but rather as their driving force (see Podjed, Gorup, & Bezjak Mlakar, 2016).

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References

- Beebe, J. (1995) Basic Concepts and Techniques of Rapid Appraisal. *Human Organization* 54 (1), 42–51.
- Cerinšek, G., Bančič, D., Podjed, D., D'Oca, S., Vetršek, J., Dolinšek, S., & Op't Veld, P. (2019) Boosting Affordability, Acceptability and Attractiveness of Deep Energy Renovations of Residential Buildings – a People-Centred Ethnographic Approach. In *proceedings of CLIMA 2019 congress*, E3S Web Conf., Vol. 111
- Cooper, A. (2017) Building a Socio-Technical Energy Research Community: Theory, Practice and Impact. *Energy Research & Social Science*, 26, 115-120.



- D'Oca, S., Chen, C.F., Hong, T., & Belafi, Z. (2017) Synthesizing Building Physics with Social Psychology: An Interdisciplinary Framework for Context and Occupant Behavior in Office Buildings. *Energy Research & Social Science*, 34, 204-251.
- Dourish, P. & Bell, G. (2011) *Divining a Digital Future: Mess and Mythology in Ubiquitous Computing*. Cambridge & London: The MIT Press.
- Forde, E. (2017). The ethics of energy provisioning: Living off-grid in rural Wales. *Energy Research & Social Science* (30)
- Góralaska, M. (2020) Anthropology from Home: Advice on Digital Ethnography for the Pandemic Times. *Anthropology in Action* 27 (1), 46–52.
- Harris, K. J., Jerome, N.W. & Fawcett, S.B. (1997) Rapid Assessment Procedures: A Review and Critique. *Human Organization* 56, 375–378.
- Heaslip, E. & Fahy, F. (2018) Developing transdisciplinary approaches to community energy transitions: An island case study. *Energy Research & Social Science* (45).
- IDEO (2019) *The Field Guide to Human-Centered Design*. Design Kit. 1st Edition. IDEO.org: San Francisco.
- Kumar, K. (1993) *Rapid Appraisal Methods*. Washington: World Bank.
- Kumar, V. (2013) *101 Design Methods. A structured Approach for Driving Innovation in Your Organization*. New Jersey: John Wiley & Sons.
- Kozinets, R. V. (2020) *Netnography: The Essential Guide to Qualitative Social Media Research*. London, etc.: Sage.
- Lupton, D. (2020) *Doing Fieldwork in a Pandemic*. Online:
<https://docs.google.com/document/d/1cIGjGABB2h2qbduTgfqribHmog9B6P0NvMgVuiHZCl8/edit> [Accessed 11th January 2015].
- Moezzi, M., Iyer, M., Lutzenhiser, L. & Woods, J. (2009) *Behavioral Assumptions in Energy Efficiency Potential Studies*. Oakland, CA: California Institute for Energy Efficiency.
- Moezzi, M. & Janda, K.B. (2014) 'From "If Only" to "Social Potential" in Schemes to Reduce Building Energy Use.' *Energy Research & Social Science*, 1, 30-40.
- O'Reilly, K. (2005) *Ethnographic Methods*. London: Routledge.
- Pink, S. (2015) *Doing Sensory Ethnography* (2nd edition). Los Angeles, etc.: Sage.
- Pink, S. & Morgan, J. (2013) Short Term Ethnography: Intense Routes to Knowing. *Symbolic Interaction* 36(3): 351-361.
- Pink, S., Tutt, D., Dainty, A. & Gibb, A. (2010) Ethnographic Methodologies for Construction Research: Knowing, Practice and Interventions. *Building Research and Information*, 38(6), 647-659.
- Pink, S., Ardèvol, E. & Lanzeni, D. (2016) *Digital Materialities. Design and Anthropology*. London: Bloomsbury.
- Podjed, D., Gorup, M. & Bezjak Mlakar, A. (2016) Applied Anthropology in Europe: Historical Obstacles, Current Situation, Future Challenges. *Anthropology in Action* 23 (2), 53–63.



- Podjed, D. (2019) Razvoj etnografsko utemeljene tehnološke rešitve. [Development of an Ethnography-based Technological Solution.] *Glasnik SED* 59 (1), 39–48.
- Postill, J. (2016) Remote Ethnography: Studying Culture from Afar. In: Larissa Hjorth, Heather Horst, Anne Galloway & Genevieve Bell (eds.) *The Routledge Companion to Digital Ethnography*. New York: Routledge. Pp. 61–69.
- Prati, D., Spiazzi, S., Cerinšek, G. & Ferrante, A. (2020) A User-Oriented Ethnographic Approach to Energy Renovation Projects in Multiapartment Buildings, *Sustainability*, 12(8179), 1-18.
- Pretnar, A. & Podjed, D. (2018) Data Mining Workspace Sensors: A New Approach to Anthropology. *Contributions to Contemporary History* 59 (1), 179–197.
- Pretnar, A. & Podjed, D. (2021) (in press). Ethnography Beyond Thick Data. *Big Data & Society*.
- Roberts, S. (2020) *The Power of Not Thinking*. London: 535.
- Sonetti, G., Arrobbio, O., Lombardi, P., Lami, I.M. & Monaci, S. (2020). "Only Social Scientists Laughed": Reflections on Social Sciences and Humanities Integration in European Energy Projects, *Energy Research & Social Science*, Volume 61.
- Sovacool, B.K. (2014). Energy Studies Need Social Science. *Nature*, 511 (7511), 529-530.
- Suchman, L. (1987). *Plans and Situated Actions: The Problem of Human-Machine Communication*. New York: Cambridge University Press.
- Tisov, A., Podjed, D., D'Oca, S., Vetršek, J., Willems, E. & Op't Veld, P. (2017) People-Centred Approach for ICT Tools Supporting Energy Efficient and Healthy Behaviour in Buildings. In: Zia Lennard (ed.), *Proceedings of the 5th Annual Sustainable Places International Conference 7*. Middlesbrough: MDPI. P. 675. Online: <https://www.mdpi.com/2504-3900/1/7/675> [Accessed 8th February 2021].
- Wang, T. (2013) Why Big Data Needs Thick Data. *Ethnography Matters* 13. Online: <http://ethnographymatters.net/blog/2013/05/13/big-data-needs-thick-data/> [Accessed 8th February 2021].