Work package no.	WP 1	Lead Participant	ITU	Starting:	M01	Ending:	M36
Work package title	Project Management						
Activity Type	Management						

Participant number	1	3	4	5	6	7	Total	
Participant name	ITU	LSE	CIID	UU	ORG	POLITO		
Person-months	15	1	1	1	1	1	20	

Objectives

1. Ensure an efficient administrative execution of the project, so that all knowledge is created, managed and disseminated in a coordinated and coherent manner and that all technical activities, financial and legal aspects and other issues are managed to a high standard.
2. Enable robust transfer of expertise and knowledge to each of the consortium members;
3. Ensure all aspects of the EC requirements for communication and reporting are fulfilled.
4. Risk management and definition of contingency planning.

Description of work and role of participant

The Coordinator (Irina Shklovski from ITU) will have overall responsibility for the work, but a dedicated Management Support Team will assist in all administrative, financial, legal and contractual matters. The Coordinator will establish and implement the overall organization of the project and prepare a detailed management and quality plan to serve as the blueprint for the project deliverables, milestones and impacts, and best assure quality and the aims and objectives of the project are achieved. This plan will be approved by the consortium and ready to implement in order to best ensure effective communication flow among participants and among work packages. All partners will assist the Coordinator as required. The Coordinator will conduct the technical management of the project as well as manage the project activities, review reports, being the intermediary between the partners and the EC.

Task 1.1 Overall management and risk contingency planning (ITU M01 - M36):

The Coordinator - ITU - will review reports to verify consistency with the project tasks and deliverables before transmitting them to the Commission. Any minor deviations from the project plan will be reported to the General Assembly (GA) members. The GA will consider the problems and, where appropriate, make recommendations for implementing the contingency plan(s) associated with the work package(s) in question. Where alternative contingency plans are needed, the Coordinator together with other relevant persons (e.g. the WP Leader in question) will draft these, including recommendations to the GA. The Coordinator will ensure that conclusions from the GA are communicated to all members and included in the project plan. In the event of more serious problems, the GA will convene to determine the best route forward and the Coordinator will advise the EC Project Officer of the problem and seek the Commission's approval for the proposed solution.

Task 1.2 Formal responsibilities of the Coordinator (ITU, M01 – M36)

- Control of progress during the project, ensuring that the project schedule is met – review of all reports before they are transmitted to the Commission
- Monitoring compliance by the Partners with their obligations;
- Resolution of any potential partnership instability and conflict;
- Organisation of the GA meetings and Kick-Off Meeting.
- Coordination of technical activities and work flow plan within work packages
- Review and management of project progress against objectives, success criteria and quality assurance
- Adoption of change-control procedures for the work-plan as needed

Task 1.3 Administrative responsibilities of the Coordinator (ITU, M01 - M36):

The Coordinator will handle all the administrative tasks connected to project activities, monitoring of activity, record keeping, reporting, ensure achievement of the working plan throughout the entire project. The Coordinator is responsible for a number of administrative tasks, including:

- Collation of all deliverables, milestone reports, mid-term and final reports submitted to EC and other partners;
- Administration of the Commission financial contribution; distribution of shares to partners and informing the Commission of completion of this task;
- Submission and organisation of the cost statements and consortium agreements; keeping of records and financial accounts;
- Resolution of any administrative or contractual issues.
- Monitoring of the project quality control, consensus formation and management procedures; Logging of correspondence and ensuring prompt response;
- Keeping the address list of Members and other contact persons updated and available; Establishing and maintaining procedures for identification, collection, indexing, access, filing, and maintenance of all documents and data relating to the project;
- Maintenance of the Consortium Agreement (CA).

Task 1.4 Scientific & Technical management responsibilities of the Coordinator (ITU, M01 - M36):

The Coordinator will coordinate technical activities and work flow plan within work packages; review and manage project progress against objectives, success criteria and quality assurance; and adopt change-control procedure for the work-plan as needed. This task includes preparation of a work-flow project management plan, management of technical progress towards the objectives and deliverables of the project plus the exchange of results and knowledge between the partners to enable cross-fertilization of ideas and data flow needed to support concurrent tasks.

Task 1.5 Innovation, open access and open research data management (ITU, M01 - M36):

Under the leadership of the Coordinator, the GA will manage all innovation aspects and open access to research data protocols, and will prepare an Innovation and Open Access Management Plan. This plan will outline the stated commitment to open access and the expected benefits and impacts of ensuring these principles met wherever possible. IP matters, should they arise, will be handled with reference to the best-practice guidelines defined by the European Commission mandated DESCA group who have suggested good practice rules for IPR and a model Consortium Agreement. VIRT-EU is committed to open access and it will be the task of the **Dissemination Manager (POLITO, see WP7)** to ensure good practices, open access guidelines and Creative Commons principles will be followed where feasible. In concert with ensuring open access, VIRT-EU is committed to participation in the open research data pilot. Coordinator will prepare an Open Research Data Management Plan to be validated by the GA and amended as research data are collected and when any issues arise. An open research data repository will be created and managed by the **Dissemination Manager (POLITO, see WP7)**

Task 1.6 Communication and research coordination among project partners (ITU, all partners M01 - M36)

This task entails setting up project management and coordination practices to ensure timely workflow among the project participants. This will entail an online project management system for all project participants in the internal project website that helps the Coordinator with oversight of the project (see WP7). The Coordinator will also convene monthly project meetings as well as regular meetings with the advisory group to discuss research directions, provide Consortium consensus on major decision points and coordinate continuing project activities. When feasible these meetings will happen in conjunction with the data synthesis seminars convened in WPs 2-5. When not feasible to meet face-to-face, the Coordinator will convene online "retreats" to bring partners and advisors together synchronously.

number	Deliverables title	date
D 1.1	**Management and Quality Plan** The Detailed Management and Quality Plan will provide the blueprint for the project deliverables, milestones and impacts, assure communication among partners and work packages, and serve to best assure quality and the aims and objectives of the project. It will be approved by the consortium and ready to implement.	M02
D 1.2	**Annual Report** This report will consolidate and summarise relevant information annually and provide the opportunity to reflect on milestones and progress in the face of industry and technology changes and other developments throughout the project.	M12 M24
D 1.3	**Mid-term Report**	M18

	This report will provide an opportunity to reflect on the state of the project and to make adjustments in the event that research to date suggests a change in time-line or requires a reformulation of tactics. The report will give an overview of the use of resources participant contributions; VIRT-EU activities, research integration and dissemination progress as well as summarize communication and outreach efforts. The report will also provide an evaluation and assessment of impacts and milestones to date.	
D 1.4	**Project Final Report** Project wrap-up report giving overviews of use of resources, participant contributions, VIRT-EU activities, research integration progress, dissemination, communication and outreach from across the project, and an evaluation and assessment of impacts and milestones against results.	M36
D 1.5	**Innovation and Open Access Management Plan** This plan will provide precise information on: (i) Terms of reference under the EC mandated DESCA group good practices for IPR (ii) Principles of open access and Creative Commons are followed wherever feasible	M03
D 1.6	**Open Research Data Management Plan** This plan will provide precise information on: (i) Applicable data protection legislation, both at EU level and within participants' states (ii) A framework for resolving data protection issues that fall outside of current data protection laws (iii) Physical and other measures for securing the data collected. (iv) Principles of open access and Creative Commons are followed wherever feasible	M06

Work package no.	WP 2	Lead Participant	LSE	Starting:	1	Ending:	28
Work package title	Domain Analysis						
Activity Type	Research						

Participant number	2	1	5	3	6	4	Total	
Participant name	**LSE**	ITU	CIID	UU	ORG	POLITO		
Person-months	**10**	10	3	10	4	6	43	

Objectives

1. Define and implement methods and procedures for initial network data collection. Define a flexible model of multiplex network able to be integrated with additional data sources. Produce initial descriptive quantitative models of networked practices of the communities under study including networks of relationships and collaborative practices, action and discussion in order to identify key actors in these networks.
2. Extend existing maps of IoT developers and communities to be used to identify sites of inquiry for further analysis of communities of practice.
3. Identify initial social configurations through observation and analysis of discussion, work practices and social norms that can indicate ways of applying insights about distributed communities of practice and their real-world counterparts. These configurations include quantitative and qualitative modeling of social dynamics as well as collaboration practices and norms.
4. Produce an initial data corpus as a baseline to follow over time throughout the project.
5. Formulate domain requirements through exploratory analysis of quantitative and qualitative data, combined with analysis of relevant EU policy and law.

Description of work and role of participant

Task 2.1 Collection of online data from online platforms and data design (ITU, LSE, UU, M1-M28)

We will begin collecting online data about the connections between key actors in our ecosystem from project start, targeting a set of pre-defined digital platforms: digital collaboration networks (GitHub, and IoT-specific forums e.g. Arduino), social networks (Twitter) and co-attendance of physical events (MeetUp). This activity will produce multiple

datasets at regular time intervals. As the ecosystem is continuously evolving this should not be considered a one-time operation: regular data collection and analysis, as well as interaction with the results of qualitative research throughout the whole project will emphasize sudden variations in the ecosystem. Through direct interactions with the relevant actors (Task 2.2) and content analysis (Task 2.3) the research team will also identify other important online discussion forums and actors.

Task 2.2 Initial domain exploration and identification of informants in European centers of IoT innovation (LSE, ITU, M3-M8)

This task will involve initial on-the-ground engagement with three pre-identified IoT developer communities where consortium partners have already obtained commitment for participation as well as those key actors identified in Task 2.1. The goal is to explore the shape and boundaries of each community, to identify initial key informants and to identify additional sources online spaces where these communities interact. Further involvement with IoT communities across Europe will be facilitated during the first phase of WP2 through an analysis of updated qualitative and quantitative data. A mixed methods approach will be used including basic social network analysis of data (obtained during the development of Task 2.1) for the IoT developers in each field location and qualitative techniques of observation, discourse analysis and interviews.

Task 2.3 Initial analysis of the network data (UU, ITU, M3-M9)

The objective of this task is to develop descriptive analyses of the networks produced by Task 2.1. The task includes centrality analysis on network data to determine the social dynamics of crowd-based collaboration systems, and qualitative analysis of collaborative actions and discussions in order to frame further study of how values are understood within distributed communities of practice. The initial analysis of the data collected during the first months will be immediately used to identify relevant actors that will be engaged during Task 2.2, with the potential effect of tuning and extending the online data collection activities in Task 2.1.

Task 2.4 Research on policies and institutional contexts for data identification, collection and analysis in Europe (POLITO, ORG, M1-M9)

This task will investigate the diverse concepts of ethics and data protection across Europe, focusing on literature review and on the policies adopted by IoT developers. On the basis of the on-the-ground engagement of IoT developer communities achieved in Task 2.2, POLITO and ORG will conduct an empirical analysis to know how these communities take into account and conceptualize the notion of data protection and which kind of ethical values they transpose in their practices, in the design of IoT devices and in terms of services of these devices. This makes it possible both to measure the potential misalignment between the law and its concrete applications, and to identify best practices among developers.

Task 2.5 Definition of the multiplex network data model for the ecosystem to be studied (UU, ITU M6 – M12)

The networks developed during this task will be connected in a multiplex network structure (a network that is able to represent different types of relations at the same time) and should be able to be extended with a number of additional layers of information collected through other relevant data sources. Potential extra layers (to be verified for technical feasibility and significance for the community) are LinkedIn, Xing and Facebook. The identification of meaningful extra layers to be collected should be based on the qualitative observation and preliminary results obtained in Task 2.2. The multiplex networks provide the starting point for the network analysis planned in WP3 (Task 3.1, 3.2), and will be repeated during the project if additional layers should be identified.

Task 2.6 Synthesis of findings and formulation of domain requirements (CIID, all partners, M 9-11)

The findings from Tasks 2.2, 2.3, 2.4 and 2.5 will be collated and synthesized in order to revise and extend the initial data models with preliminary qualitative findings analysing communities of practice and policy research thus providing foundation for work conducted in WP3 and WP4. This will be accomplished through the first intensive data-analysis seminar involving all partners in M10 facilitated by CIID. Seminar materials will be compiled into a multi-media presentation (D2.1) to be disseminated via blogs and other types of social media channels available to partners and the consortium as a whole (see WP7). The outcomes of this seminar will be disseminated through publications submitted to key select practitioner and scholarly conferences, as well as via other dissemination channels appropriate for developer communities under study, scholarly communities, and local briefing sessions. Finally, revised and extended summary of findings and plans for further research activities will be communicated to the multi-stakeholder advisory group during an online seminar (D 2.2).

Number	Deliverables Title	Date
D2.1	Blog posts and multi-media material summarizing preliminary empirical and policy findings for developer communities under study and other interested stakeholders, disseminated through a variety of social media channels	M9
D2.2	Revised and extended summary of integrated qualitative and quantitative findings, legal analysis and plans for further research activities in WP3 and WP4	M11

Work package no.	WP 3	Lead Participant	UU	Starting:	8	Ending:	21
Work package title	Empirical investigation of IoT and maker communities of practice						
Activity Type	Research						

Participant number	**3**	1	2	4	6	4	Total	
Participant name	**UU**	ITU	LSE	CIID	ORG	POLITO		
Person-months	**15**	20	12	9	2	0	58	

Objectives

1. Develop and evaluate centrality metrics and clustering detection techniques for the multiplex network.
2. Empirically identify, using SNA, sociological and design methods, how local culture and network society influence the understanding and movement of particular social values among technology developers and how local difference and network commonality can influence the development of ethical subjects.
3. Develop a set of metrics that act as a proxy for measures of perception of ethical values across European developer communities

Description of work and role of participant

This interdisciplinary work package includes quantitative, qualitative and design investigations of the communities under study. These investigations will be conducted in parallel with frequent cross-pollination.

The quantitative efforts will focus on the definition of specific metrics and measure viable for the analysis of a large-scale real multiplex network and the continuous process of evaluation of the produced results through engagement with qualitative and design research.

The qualitative efforts will focus on developing an understanding of how notions of ethics evolve, get articulated and enacted in the course of technology design processes and through community interaction and development activities.

To enhance the traditional qualitative approach, CIID and ORG will, together with ITU and LSE, conduct co-design workshops in locations chosen for the study of communities of practice as a staged intervention targeted to bring forth additional voices and perspectives to the ongoing ethnographic research and to communicate interim research findings to the communities. This represents an innovative form of critical intervention in community discourse and aims to bring together developers, civil society and policy actors.

Task 3.5 allows integration of on-going theoretical developments produced in WP4.

Task 3.1 Definition of prestige / centrality analysis (ITU, UU M8 – M18)

The extended version of the multiplex network will be used to evaluate the centrality of the actors in the developers' ecosystem. The measurement of centrality is a well-established activity in network analysis that can be obtained using a variety of complementary metrics. Nevertheless applying these existing metrics on a multiplex network requires the development of novel ad-hoc extensions currently at an early stage of development. Understanding what metrics are most suitable for the specific context and how to implement and evaluate them will require consistent communication between all of the researchers involved in WP3 (D 3.1).

Task 3.2 Pattern identification and cluster analysis (UU, ITU M10 – M28)

Another necessary analysis task requiring extension of traditional methods is the identification of patterns and clusters. This research task will define methods to identify recurrent patterns of interaction between the actors involved and will

analyse these in terms of structural significance within a multiplex network perspective. These clusters will be based on network data identified in WP2. These concepts have been used in traditional network analysis but their use on a multiplex network represents a challenge requiring extensions and adaptations of existing metrics. Also within this perspective consistent communication with ethnographic research in Task 3.3 & Task 3.4 and theoretical development in WP4 will allow us to verify if the detected clusters map on any offline community and to understand the specific sociocultural meaning of these clusters in terms of shared practices and values.

Task 3.3 Communities of practice studies – UK & other locations (LSE, ITU M9-M21)

This task builds on initial mapping and analysis of the IoT developer communities of practice starting with the previously established research site in London and expanding to include other locations as identified in Tasks 2.1, 2.2 and 2.3. Entry into these communities of practice will be facilitated through the existing connections that the research team has developed as preparation for this proposal (see Advisory Group listing). Two teams of researchers will work to describe and analyse in detail developer communities of practice focused on IoT in relation to personal data protection and the design of personal sensing technologies. This task contains the following activities:

-Identifying and mapping rhetoric about data protection and privacy among developers, sources of this rhetoric and resulting models of privacy thresholds and expectations of behaviour

-Analysing how these ideas move through developer networks and identifying the role of social media, in-person events and regular media in knowledge creation and distribution

-Categorising how models of privacy and other ethical considerations shape developers' thought and development process to analyse these as part of the development of ethical subjectivity (using relevant philosophical material)

The task includes participation at IoT MeetUps, conferences, networking events, observations of maker spaces, co-working spaces and work practices including meetings, and semi-structured interviews with community members. This structure will allow researchers to identify the similarities across the IoT developer communities of practice in the several EU-based locations studied and identify appropriate participants for participation in stakeholder workshops (Tasks 3.4 & 5.4) and later co-design of privacy tools and scenarios (Tasks 5.2 and 5.3). This task will produce an in-progress report for the interim exchange workshop (Task 3.5) which will be expanded into a qualitative analysis of European IoT communities of practice and disseminated to the IoT community via blog posts and other social media channels (D 3.2)

Task 3.4 European in-community co-design and stakeholder workshops (CIID, ORG, LSE, ITU – M12-M20)

Staging a series of participatory workshops in EU Locations identified in Task 3.3 CIID and ORG will bring together IoT developers and other related stakeholders to "critical co-design" sessions that explore central as well as outlying themes identified by the qualitative research so far. We will capitalize on ORG's and CIID's existing connections within open data and IoT communities and their central position in the ecology of policy, civil society and technology development around data. The aim is two-fold: 1) To critically intervene in the developer community's current discourse on the topics of the project, highlighting different perspectives and adding voices to the research; and 2) stimulating emerging or ongoing reflexive practices among participating stakeholders upon the topics at hand, facilitating eventual reception of, and continuous collaboration on, the community-oriented outcomes of the project. This task will lead to the interim report to be used in Task 3.5 and produce prototype tool concepts (D3.3)

Task 3.5 Analytic seminar for interim exchange with WP 4 (LSE, ITU, UU, CIID, ORG – M16)

Preliminary results of the quantitative analysis in Task 3.2, and the mapping of rhetorical communities of practice and categorization of understanding of privacy and ethics from Task 3.3 as well as design insights from task 3.4 will generate analytic and research material produced by UU, LSE and CIID and compiled into an interim research report produced by ITU in preparation for an all-partner interim progress-exchange seminar organized by LSE. This report will help refine the methodology for the development of the Privacy, Ethical and Social Impact Assessment framework and provide empirical basis for the guidelines and questionnaires produced in WP4. The outcomes of the seminar will be translated into multi-media reports and blog posts to be disseminated to the IoT community.

Number	Deliverables Title	Date
D3.1	Technical report with the definition of the adopted network analysis metrics, code and quantitative analysis.	M28
D3.2	A series of blog posts and multi-media reports about interim empirical findings disseminated to the IoT community	M21
D3.3	Prototype tool concepts produced from co-creation workshops	M20

Work package no.	WP 4	Lead Participant	POLITO	Starting:	M03	Ending:	M27
Work package title	Law & Policy						
Activity Type	RIA						

Participant number	7	6	3	4	5	1	Total
Participant name	**POLITO**	ORG	LSE	CIID	UU	ITU	
Person-months	28	6	2	0	0	0	36

Objectives

1. On the basis of the ongoing analysis in WP2 and WP3 this WP investigates the limits of the existing data protection regulatory framework, in terms of effective user's empowerment and prevention of potential negative individual and social effects of data processing.
2. Define a new and broader methodology of assessment (Privacy, Ethical and Social Impact Assessment-PESIA), which goes beyond the traditional privacy impact assessment and takes into account the ethical and social effects of data processing.
3. Provide guidelines for developers and consultants to conduct the PESIA.
4. Define a questionnaire based on developer practices identified in WP3 that will assist in conducting the PESIA taking into account existing practices.

Description of work and role of participant

Description of work

The tasks of this work package are concerned with two major challenges:

- Identifying the social and ethical common values that should be taken into account in the PESIA, according to the diverse context of data processing
- Developing a procedure for conducting the PESIA, which should be supported by adequate tools (e.g. guidelines and questionnaires) and takes into account developer practices

To achieve these goals, the traditional legal methodology is combined with an empirical methodology, which is based on the results of the ethnographic studies on how privacy, social and ethical values and principles are articulated in the IoT developer communities.

Since defining prescriptive ethical guidance may be problematic, due to the influence of contextual factors, common guiding ethical values can be found in international charters of human rights and fundamental freedoms. The guidance will integrate these ethical positions with the empirical research on the experience of developers as ethical subjects. Where possible emerging design contexts will be specifically considered such as for example wearable devices, IoT devices for children and healthcare IoT devices.

Task 4.1 Overview of the limits of the data protection regulatory framework (POLITO, ORG M03-M12):

The task will investigate the strength of the approach that has been adopted by the new data protection regulation (GDPR), which is primarily focused on the notions of purpose limitation, data minimization, data subject's self-determination and traditional privacy impact assessment.

The study hypothesis is that complexity and obscurity of modern analytics drastically limit data subject's capability to evaluate the consequences of their choices. Moreover, the use of large amount of data for algorithmic group profiling points out a new collective dimension, associated with potential harm to groups in terms of social discrimination and unethical use of data. In this light, the task will investigate a different regulatory approach, according to which data protection evolves in a more complex process of multiple-impact assessment of the individual and collective risks related to the use of data.

Task 4.2 Defining a methodology for the Privacy, Ethical and Social Impact Assessment-PESIA (POLITO, ORG M08-M18):

The adoption of a risk-assessment methodology is not circumscribed to the traditional data security assessment, but includes the social and ethical dimensions. Therefore, it requires a new and specific procedure of assessment. Given the context-based nature of social and ethical values, it is necessary to identify common values that should be adopted for this assessment. The methodology will provide guidance about this identification of ethical and social values and the definition of processes of assessment mainly based on questionnaires and guidelines.

Task 4.3 Providing general and sector-specific guidelines for PESIA (POLITO, ORG, LSE M15-M27):

Building on the methodology defined in task 4.2 and on the assessment of ethical practices and ethical subjectivity in developer communities we will develop guidelines for the adoption of PESIA. Since the ethical and social issues can be addressed only in general terms by a non-specific PESIA, the task will also consider particular sectors as identified in WP3. These sectors could for example include wearable devices, IoT devices for children and healthcare IoT devices as sectors where the nature of data processed and the sensitive implications of data processing for individuals and society are significant. The decision on sectors will be made at the Analytic workshop for interim exchange with WP3 (Task 4.5)

Task 4.4 Providing general and sector-specific instruments (POLITO, ORG, M18-M27):

In line with the provision of guidelines for PESIA, this task transposes these guidelines in questionnaires that can be used by developers for a self-assessment of the Privacy, Ethical and Social impacts of their products or services. The sector-specific questionnaires concern the same sectors taken into account in the task 4.3. These questionnaires will offer the key elements in developing software solutions for PESIA in WP6.-

Task 4.5 Analytic seminar for interim exchange with WP 3 (LSE, ORG, POLITO, M16):

POLITO will prepare an interim report based (D4.3) on ongoing Tasks 4.1, 4.2, 4.3 and 4.4 to facilitate work in WP3 on the development of metrics that are most suitable for the IoT context in T3.2 and to facilitate greater focus in ethnographic and design investigations in T3.3. LSE will organize an all-partner interim progress-exchange seminar with WP3

Number	Deliverables Title	Date
D4.1	First Report: This report to the internal members of the consortium is the synthesis and analysis of the findings of task 4.1	M12
D4.2	Social media communication with an overview of the key elements of the PESIA	M16
D4.3	Second Report: This report to the internal members of the consortium describe the PESIA methodology and provides some initial guidelines	M24
D4.4	Final report on PESIA and related guidelines and questionnaires	M30

Work package no.	WP 5	Lead Participant	ITU	Starting:	18	Ending:	34
Work package title	Data Synthesis and Tool Development						
Activity Type	Research activity						

Participant number	1	3	4	5	6	7	Total
Participant short name	ITU	LSE	CIID	UU	ORG	POLITO	
Person-months	9	8	9	3	5	5	39

Objectives

1. Develop new methodologies for achieving analytic synthesis of qualitative and quantitative empirical data and legal analysis.
2. Identify connections between networked relationships among developers and community processes of idea exchange and enactment of ethics in practice.
3. Develop processes based on the ethical impact assessment framework and study of knowledge sharing and ethical practices to systematically consider and implement privacy, security and ethical frameworks for technology developers and their clients and partners.

4.	Develop tools and materials to support developers in negotiating, articulating and acting on shared ethical values and to support interdisciplinary interaction among a range of stakeholders for addressing these issues.

Description of work and role of participant

Task 5.1 Data synthesis seminar (ITU, all partners – M21-M24)

The findings from WP2, WP3 and WP4 will be collated, interrogated and synthesized during an intensive data-analysis seminar involving all partners in M22. This work will build on partner experience in tasks 2.6, 3.4, 3.5 and 4.5 and include an all-partner seminar that will facilitate the necessary data exchange and the development of new methods for synthesis of heterogeneous data and legal analysis outcomes through analytic and generative exchanges between partners taking its departure in D3.4. This work will continue with partner collaborations in the development of publications and other types of communication for diverse audiences. The major achievement of this task will be refining of new methodologies for achieving analytic synthesis of qualitative and quantitative empirical data, co-design feedback and legal analysis. The substantive outcomes and methodological advances developed throughout WP5 will be disseminated through a series of publications submitted to key select practitioner and scholarly conferences and journals, as well as via social media channels available to partners and the consortium as a whole (D5.1).

Task 5.2 Design of ethical impact self-assessment tools for developer communities (CIID; all partners M18-M29)

The outputs from Task 5.1 together with in progress outputs of Tasks 4.3 and 4.4 will be collated, interrogated and synthesized in order to distil the findings and analytic conclusions into development of tools and materials to support negotiating, articulating and acting on shared ethical values in situ of developer practices. These areas of concern will be prepared as a multi-media presentation and communicated to key stakeholders in the developer communities and to our multi-stakeholder advisory board and a series of blog posts disseminated via diverse social media channels (D5.2). To mitigate these barriers, CIID and ORG will facilitate development of conceptual scenarios utilizing online collaborative idea exchange between the partners and the Advisory Group. The conceptual scenarios developed in the course of the task will be evaluated through co-design with developer communities and other stakeholders in Task 5.4.

Task 5.3 Develop tools and materials to support developers in negotiating, articulating and acting on shared ethical values (CIID; all partners – M21-M30)

This task will utilize the knowledge gained through WP2, 3 and 4, refined in Task 5.1 and operationalized in Task 5.2 in order to develop tools to help developer communities conduct self-assessments using the Privacy, Ethical and Social Impact Assessment framework developed in WP4. The quantitative and qualitative research on knowledge sharing and ethical practices among IoT development communities will be important here. The tools produced in this task will take their departure in co-design outputs of Task 3.4 and further refined in T5.4 (D5.3)

Task 5.4 Stakeholder and developer workshops (ORG, all partners – M23-M34)

Building on the deliverables from Tasks 5.2 and 5.3 and relationships with developers and other stakeholders developed in Task 3.4 we will conduct a two rounds of workshops lead by ORG and bringing together representatives from developer, civil society and policy communities. The major goals of the first round of stakeholder workshops are to design a set of engagement and discussion scripts for ways to develop a shared language between disparate stakeholders and to produce productive outcomes for developer practices civil society activities and policy development and outcomes (D5.4). We will evaluate the efficacy of these scripts during the second round of workshops and final stakeholder and developer interactions in WP6.

Number	Deliverables Title	Date
D5.1	Two presentations at high level conferences one in ICT and one in SSH field and at least one joint article in a well recognized journal on substantive and methodological contributions of the project	M24
D5.2	Blog posts and multi-media presentations on identified areas of concern for the IoT developer communities of practice disseminated via social media channels	M27

D5.3	Prototypes of a set of tools for developers to conduct self-assessments using the Privacy, Ethical and Social Impact Assessment framework and to support reflection on ethics of data practices in their design processes	M30
D5.4	Initial draft of engagement and discussion scripts for running workshops to bring together stakeholders and help them develop a common language for discussing technology, ethics, privacy and data from interdisciplinary points of view	M31

Work package no.	WP 6	Lead Participant	CIID	Starting:	28	Ending:	36
Work package title	Tool and scenario evaluation and effect measurement						
Activity Type	Research activity						

Participant number	4	3	1	5	6	7	Total
Participant short name	CIID	LSE	ITU	UU	ORG	POLITO	
Person-months	9	8	8	3	4	2	34

Objectives

1. Develop a usable set of tools and materials based on the PESIA framework to be deployed to the broader community of developers and other stakeholders.
2. Evaluate the tools and materials produced by the project through co-design and co-creation with relevant communities.
3. Develop specifications for the use of project outcomes as a service to the developer communities and other stakeholders delivered via ORG website.
4. Demonstrate project effectiveness through quantitative measures of structural and qualitative changes resulting from project-lead interventions in developer communities under study over the course of the project.
5. Demonstrate effectiveness of tools and methods through a direct engagement with the IoT developers, makers and community innovators via a design challenge event.

Description of work and role of participant

Task 6.1 Integrate tools and materials with structured feedback from multi-stakeholder Advisory Group (CIID, all partners – M27-31)

The tools and materials developed in Tasks 5.3 and 5.4 will be evaluated through direct engagement with the multi-stakeholder advisory group through online discussion and feedback mechanism facilitated by CIID. This collaborative evaluation will produce structured feedback that will be integrated into the original tools and materials. As a result of this development process, CIID will organise a workshop in M30 with members of the multi-stakeholder advisory board and other relevant stakeholders to facilitate a co-creation session centred around the in-depth discussions of the areas of concern identified in Task 5.2. This co-creation session will be co-located with the advisory board meeting organized by the LSE where the research team will deliver findings and initial analytic conclusions. The output of the sessions will feed into the development of scenarios for the design and delivery of IoT tools and systems (D 6.1). The underlying goal of these scenarios is to enable IoT entrepreneurs to integrate issues arising out of the identified areas of concern into their design processes and produce reflections about the ethical values and policy issues at stake. The output of this task will form the basis for Tasks 6.2 and 6.3.

Task 6.2 Design challenge event (CIID, all partners – M28-32)

Scenarios developed in Task 6.1 will be evaluated through direct engagement with the IoT developers, entrepreneurs, makers and community innovators, taking the form of a design challenge competition aimed at addressing one of the scenarios via a prototype or proof of concept IoT design. Participants will be asked to use the PESIA prototype tools (D 5.3) as part of their design process. Consortium partners CIID, ORG and LSE will organize a design challenge – a broadly advertised public event – to take place in London in M30. The challenge will be organised as a physical event and structured around a critical Maker conference, a combined speaker/panel track with thematic workshops and parallel hackathon. The event, open to all European developers to participate, will be advertised to the communities under study

and via social media channels such as Twitter and Facebook, leveraging substantial followings of several consortium partners, members of the multi-stakeholder board, and the consortium as a whole. The event will be judged by the industry advisors that are members of the multi-stakeholder advisory board and IoT developers central to the community, identified in WP2 and WP3. This public event will also be open to policy and public interest stakeholders and will act as an opportunity for a range of IoT entrepreneurs to showcase their work broadly. Participants will be competing for a cash prize of EUR 5000 to be distributed to top three designs as judged by the panel of experts. The event will be extensively documented via blogs, video and audio material. All participants in the challenge will be interviewed about their use of the ethical impact assessment framework as part of the evaluation of PESIA prototypes.

Task 6.3 Development of scenario specifications and implementation strategy (ORG, all partners – M32-36)

The outcomes of task 6.1 and 6.2 will be integrated to develop a coherent implementation strategy for PESIA tools and to provide an opportunity for reflection on ethics within development processes. This will include the development of scenarios with the participation of stakeholders including developers, their clients, civil society, non-profits and policy actors. ORG will then deploy and publicize this service through its already existing network, making these available to the IoT developer community, interested stakeholders and activists online and via available social media channels (D 6.2). This service will serve both as a way to disseminate information from this project into the community and to seed recommendations for the community, co-created with the broader community in ways that seeds transformation in ethical practices across the sector.

Task 6.4 Measurement of structural and qualitative changes in developer communities (ITU, all partners – M30-M34)

As a way to measure impact, VIRT-EU will track the evolution of the IoT developer communities during the project. Relying both on the multiplex network model and the qualitative description of the communities developed in Task 3.3, the project will describe the changes observed in the community as a result of interventions through co-design and evaluation workshops throughout WP3 and WP5. From a multiplex network perspective the measurement will be based on the analysis of the evolution of clusters within IoT developers community. These clusters will be described through the analysis of Modularity and other ad-hoc metrics. From a qualitative perspective the evaluation of the impact of the project will be based on the change in the discourses circulating among the community of practice, as well as the perceived legitimacy of the tools presented as part of the project, particularly the PESIA tools, as assessed through co-design and final interviews with makers and designers (on going in Task 5.4 and at the completion of the design challenge event in Task 6.2). This task will generate a quantitative measurement and qualitative assessment of the impact of the project on the European IoT developer communities (D 6.4). This measurement will be used both internally and externally: Internally it will be used to self-assess the results obtained by the project while externally it will provide data evidence to dissemination activities described in WP7.

Number	Deliverables Title	Date
D6.1	Integrated version of scenarios of ethical practices using PESIA for developer communities	M30
D6.2	Finalized set of scripts and materials for running interdisciplinary multi-stakeholder workshops on data-related issues and topics	M35
D6.3	VIRT-EU Service package composed of project outputs and deployed to developer communities (DEC deliverable)	M36
D6.4	Quantitative and qualitative measurement of the effects obtained by the project on the European IoT developer communities of practice and presented in a report	M34
Number	**Milestones Title**	**Date**
M6.1	Deployment of VIRT-EU Service package on ORG website	M36
M6.2	Measurement of the effects obtained by the project on the European IoT community.	M34

Work package no.	WP 7	Lead Participant	POLITO	Starting:	M01	Ending:	M36
Work package title	Communication, Dissemination and Exploitation						

Activity Type	Dissemination						
Participant number	1	2	3	4	5	6		**Total**
Participant short name	**POLITO**	ITU	LSE	CIID	UU	ORG		
Person-months	19	3	1	1	1	2		27

Objectives

1. Disseminate the progress and the results of the project to the developer communities as well as to a diverse audience of interested stakeholders including civil society (citizens and advocates), policy makers, entrepreneurs, and other scholars
2. Have a considerable impact on European discussion about ethical values designed into future technologies by disseminating key concepts, challenges, scenarios and tools through an innovative mix of channels and formats that the different stakeholders recognize and value
3. Bridge emerging policy, advocacy, scholarly, entrepreneurial and community innovation conversations around data use, collection, storage, and re-use in the developer and maker communities.
4. Support responsible research and innovation across Europe through scholarly reports and broadly accessible social media discussions on distinctly European innovation cultures and opportunities in this emerging industry.
5. Contribute to the knowledge exchange and mutual learning between SSH and ICT communities

Description of work and role of participant

Dissemination and Communication of the project results will be pursued both towards the scientific and technological communities, citizens, policy makers, entrepreneurs and other scholars. VIRT-EU impact will be maximized by defining a proper road map for a proper integration and widespread use of project deliverables, targeted management, complemented by adequate dissemination and exploitation of project results and proper development of intellectual property. To this aim a strong contribution will be provided by all partners that will allow to enhance the efficacy of our dissemination activities.

The activities will be empowered through the organization of sessions and conferences involving researchers and practitioners. Moreover training of young scholars in this area will be also pursued using the main events, which have a dimension that goes far beyond Europe.

Exploitation activities will be focused on upgrading existing courses and teaching materials as well as developing new courses at the universities, and using the project results to broadly disseminate the outputs of the project to IoT developer communities and interested stakeholders and policy professionals.

Task 7.1 Development and maintenance of the VIRT-EU online presence (POLITO, all partners M01 - M36):

The Nexa Center will develop and deploy the VIRT-EU gateway on Nexa Center's servers. Once set-up, the gateway will deliver to the public at large the project progresses and public events. The VIRT-EU gateway will integrate social media functions building on the existing social media presence of participating researchers and include regular updates about the project on the gateway, linking to the lead researchers` blogs and Twitter accounts, as well as blog posts on relevant leading blogs such as OrgTheory.net and CultureDigitally.org ("gathering point for scholars and others who study cultural production and information technologies") which allows for frequent interaction with interested scholars, innovators, thinkers. Development, maintenance and updating of the project`s website is central here as a convergence point for project partner social media activity thus the gateway will also include a private area for internal consortium matters.

Task 7.2 Production of in-progress reports from the research to be shared with the community of European innovators (ITU, all partners, M08, M16, M24, M32):

We have a commitment to in-progress publishing and open access to the knowledge generated, ensuring that the efforts of the Consortium are leveraged during the project to making our work known to the stakeholder communities we are engaging. These reports will include visualizations, infographics and video in order to maximize impact.

Task 7.3 Local Briefing Sessions (ITU, LSE, UU, PT M12, M24):

In order to engage local communities of researchers and practitioners, each partner will convene an informal, local briefing session to serve as dissemination venues for getting information about the in-progress results of VIRT-EU activities to the innovation community and generate feedback mechanisms to support engagement and critical analysis

throughout the project.

Task 7.4 Dissemination of research materials and results (POLITO, ITU, LSE, CIID, ORG M36):

All materials produced in VIRT-EU (co-design outputs, tools, frameworks, reporting, white papers, data) will be delivered via the Gateway and publicized through the different VIRT-EU communication channels (gateway, social networks, project partner's blogs, ORG website). Consortium members will attend relevant academic conferences in Europe and the US to engage with the academic community and publish their findings in prestigious academic journals and in the most influential targeted conferences. We will give preference for all-open access journals (e.g., International Journal of Communication) to ensure widest dissemination. Further, the dissemination of co-design materials and outputs that go beyond traditional recommendations and policy papers will include Kickstarter-style videos, info graphics and other digital visualizations produced in WP6. All research materials to be made available for the developer communities will be delivered via an open access platform such as Github.

Task 7.5 Curriculum development material accumulation (POLITO, M24):

We will produce a section on the website to support and aid the development of multi-disciplinary curriculum to foster better learning and help advance study and teaching in support of ethics in design, collective data protection, privacy by design and innovation. Further, we will develop a program for teaching best practices in SSH-ICT collaboration and best practices in RRI at different levels of engagement – from bachelor to PhD. This will consist of bringing together sample syllabi from consortium partners and other relevant efforts identified in Europe and globally, as well as developing an extended bibliography, available on the VIRT-EU gateway.

Task 7.6 Conferences – Opening and Closing (ITU, all partners, M6, M30):

In order to disseminate the results of the project and get feedback from stakeholders, we are organising two conferences (Opening conference to be held at ITU and Closing conference to be held in London in conjunction with the Design Challenge) to bring together different actors in the field. Recommendations and policy concerns will play a central role. Both conferences will be preceded by an open Call for Papers with between 130 and 150 participants from around the world, including VIRT-EU participants, advisors and participants from among the cross-sector multi-stakeholders. The conferences will provide an opportunity for the establishment of new partnering opportunities, along with the continued development of existing partnerships, while connecting and introducing VIRT-EU participants to relevant new research from outside the network. Advisory Group meetings will be conducted as part of conference activities. The Opening conference at ITU will provide an opportunity to launch the project to a wider community and engage researchers and stakeholders from the start, take stock of design values in innovation, present the co-design challenge, and establish VIRT-EU as a project inclusive of a broad network of expertise. The Closing conference in London will showcase completed and on-going VIRT-EU research and the range outputs, and explore the next steps for ethics in innovation research. Such conferences also provide unparalleled opportunities for PhD students and young researchers to present to, meet with, and learn from each other and more established researchers and thus to improve their research, presentations skills, and career opportunities. Finally, the conferences will also be attractive to those with a professional interest in ethics in design, data protection by design, and design values in innovation who will attend to learn about the cutting-edge research being carried out, the findings produced, and innovation for the future. In turn, the academic researchers will have an opportunity to network with and learn from the non-academics.

number	Deliverables title	Submission date
D 7.1	Revised Dissemination Plan approved by the consortium and ready to implement	M24
D 7.2	VIRT-EU gateway (a dedicated section will serve as open-access data repository).	M03
D 7.3	Local Briefing Sessions: (one per each year at three different locations), Opening and Closing Conference.	M06, M18, M30
D 7.4	Curriculum development material accumulation	M24
D 7.5	Initial publications in peer reviewed journals and conference proceedings, according to the criteria of the dissemination strategy.	M18
D 7.6	Open-access data repository: Research material to be submitted to identified developer community open access data repositories. Includes archive of co-design outputs, videos, info graphics, digital visualizations, scenarios and tools produced in WP6 and WP7	M36

Table 3.1b List of Work Packages

Work package No	Work Package Title	Lead Participant No	Lead Participant Short Name	Person-Months	Start	End
1	Project Management	1	ITU	20	1	36
2	Domain Analysis	2	LSE	43	1	28
3	Empirical engagement	3	UU	58	8	21
4	Law & policy	4	POLITO	36	3	27
5	Data Synthesis and Tool Development	1	ITU	39	18	34
6	Tool evaluation and effect measurement	5	CIID	34	27	36
7	Dissemination and Exploitation	4	POLITO	27	1	36
Total				257		

Table 3.1c List of Deliverables

Num.	Name	WP	Lead	Type	Level	Date
D1.1	Management and Quality Plan	WP1	ITU	R	PU	M02
D1.2	Annual Report	WP1	ITU	R	PU	M12 M24
D1.3	Mid-term Report	WP1	ITU	R	PU	M18
D1.4	Project Final Report	WP1	ITU	R	PU	M36
D1.5	Innovation and Open Access Management Plan	WP1	ITU	R	PU	M03
D1.6	Open Research Data Management Plan	WP1	ITU	R	PU	M06
D2.1	Blog posts and multi-media material summarizing preliminary empirical and policy findings for developer communities under study and other interested stakeholders, disseminated through a variety of social media channels	WP2	CIID	DEC	PU	M09
D2.2	Revised and extended summary of integrated qualitative and quantitative findings, legal analysis and plans for further research activities in WP3 and WP4	WP2	LSE	R	PU	M11
D3.1	Technical report with the definition of the adopted network analysis metrics, code and quantitative analysis.	WP3	UU	R	PU	M28
D3.2	A series of blog posts and multi-media reports about interim empirical findings disseminated to the IoT community	WP3	LSE	DEC	PU	M21
D3.3	Prototype tool concepts produced from co-creation workshops	WP3	CIID	DEM	PU	M28
D4.1	First Report: This report to the internal members of the consortium is the synthesis and analysis of the findings of Task 4.1	WP4	POLITO	R	PU	M12
D4.2	Social media communication with an overview of the key elements of the PESIA	WP4	ORG	DEC	PU	M16
D4.3	Second Report: This report to the internal members of the consortium describe the PESIA methodology and provides	WP4	POLITO	R	PU	M24

	some initial guidelines					
D4.4	Final report on PESIA and related guidelines and questionnaires	WP4	POLITO	R	PU	M30
D5.1	Two presentations at high level conferences one in ICT and one in SSH field and at least one joint article in a well recognized journal on substantive and methodological contributions of the project	WP5	ITU	R	PU	M24
D5.2	Blog posts and multi-media presentations on identified areas of concern for the IoT developer communities of practice disseminated via social media channels	WP5	LSE	DEC	PU	M27
D5.3	Prototypes of a set of tools for developers to conduct self-assessments using the Privacy, Ethical and Social Impact Assessment framework and to support reflection on ethics of data practices in their design processes	WP5	CIID	DEM	PU	M30
D5.4	Initial draft of engagement and discussion scripts for running workshops to bring together stakeholders and help them develop a common language for discussing technology, ethics, privacy and data from interdisciplinary points of view	WP5	CIID	OTHER	PU	M31
D6.1	Integrated version of scenarios of ethical practices using PESIA for developer communities	WP6	CIID	DEM	PU	M30
D6.2	Finalized set of scripts and materials for running interdisciplinary multi-stakeholder workshops on data-related issues and topics	WP6	CIID	DEC	PU	M35
D6.3	VIRT-EU Service package composed of project outputs and deployed to developer communities	WP6	CIID	DEM	PU	M36
D6.4	Quantitative and qualitative measurement of the effects obtained by the project on the European IoT developer communities of practice and presented in a report	WP6	ITU	R	PU	M34
D 7.1	Revised Dissemination Plan approved by the consortium and ready to implement	WP7	POLITO	R	PU	M24
D7.2	VIRT-EU gateway (a dedicated section will serve as open-access data repository).	WP7	POLITO	DEC	PU	M03
D7.3	Local Briefing Sessions: (one per each year at three different locations), Opening and Closing Conference.	WP7	POLITO	DEC	PU	M06 M18 M30
D7.4	Curriculum development material accumulation	WP7	POLITO	R	PU	M24
D7.5	Initial publications in peer reviewed journals and conference proceedings, according to the criteria of the dissemination strategy.	WP7	POLITO	R	PU	M18
D7.6	Open-access data repository: Research material to be submitted to identified developer community open access data repositories. Includes archive of co-design outputs, videos, info graphics, digital visualizations, scenarios and tools produced in WP6 and WP7	WP7	POLITO	DEC	PU	M36

3.2   Management structure, milestones and procedures

In order to ensure strong project management and effective decision-making within the project, the partners have defined a management structure to specifically address the scope of the challenges presented in the proposal – paying due attention to proper coordination and monitoring of the R&D work, communication between the partners, as well as broad dissemination of the project results. The project management structure for the VIRT-EU project is based on the model set out in the DESCA Model Consortium Agreement. The model will also be reflected in the Consortium Agreement (CA).

3.2.1 Organizational structure

The organisational structure of VIRT-EU is comprised of the following Consortium Bodies to ensure a clear and balanced distribution of power and responsibilities:

- A **General Assembly (GA)** as the ultimate decision-making body of the consortium for strategic decisions impacting on the project and its external relationship, in particular with the European Commission. All partners in VIRT-EU will be members of the GA, which is chaired by the Coordinator.

- A **Coordinator** as an intermediary between the European Commission and the consortium, representing the GA, and overseeing day-to-day management of the project (WP1) and the execution of all R&D work packages in the project.

- A **Dissemination Manager (DM)** to formulate and execute a dissemination and communication plan and coordinate communication and dissemination activities for VIRT-EU (WP7), reporting to the Coordinator.

- A **Management Support Team**, who assists the Coordinator by providing legal, contractual, financial, ICT and administrative support.

External bodies

In addition to the Consortium Bodies, an external *Advisory Group (AG)* with the participation of stakeholders from industry, advocacy, and academia will provide relevant data input, feedback and recommendations to the consortium.

The management structure of VIRT-EU is illustrated in Figure 3.2 below:

Figure 3.2 Governance structure for VIRT-EU
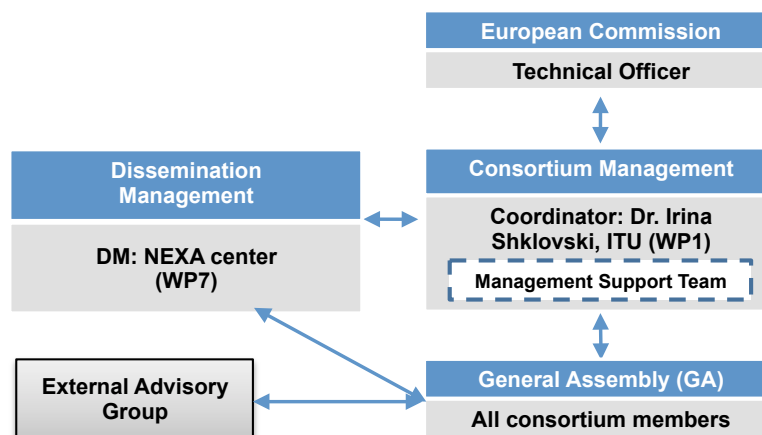
3.2.2 Organization of VIRT-EU – role and responsibilities

The **Coordinator** acts as the sole interface between the Consortium and the European Commission in all contractual matters. She will perform all tasks assigned as described in the Grant Agreement and CA, namely representing the GA, overseeing day-to-day management, monitoring project progress, coordinating efforts, launching corrective actions and necessary interventions and assuring overall project's delivery on objectives. She also oversees external project communications and administers legal, contractual and financial issues. The Coordinator is assisted by a **Management Support Team**. As a guiding principle, the Coordinator's responsibilities are restricted to activity coordination and she is not entitled to act or make legally binding declarations on behalf of the Consortium or any other partner unless explicitly specified by the Consortium.

Our consortium has appointed **ITU** to fulfil the task of Coordinator. ITU has extensive experience from a large number of innovation projects and has a strong support team to assist the Coordinator in her management task. More specifically, ITU is currently coordinating 4 larger EU projects from various programmes such as AAL, FET Open and Artemis, and we have well-structured procedures in place for running such R&D collaborative projects.

Dr. Irina Shklovski will take the role as Coordinator. She is well experienced in research and innovation project administration, having managed projects funded by the (US) National Science Foundation and Intel totalling over US$500,000 and participated in several EU funded projects, among other the project ANDROID, which was a network project with 67 partners. Dr. Irina Shklovski is a global expert on conducting qualitative research with communities of practice, and has completed projects on interactions with data in contemporary digital lives, critical systems and technology use in crisis response, and, most recently, communication technology use and innovation in Post-Soviet environments. She wrote an award-winning study of the user reactions to data leakage on mobile devices, *Leakiness and Creepiness in App Space: Perceptions of Privacy in Mobile App Use* published by the Association of Computing Machinery (ACM) in 2014. She is a co-editor of a new open access Sage journal "Big Data and Society," the faculty representative on the ITU Board of Directors and leads the Critical Systems strategic research area at the ITU where she is tasked with developing a coherent research agenda and an education programme focused on big data, algorithms, privacy and ethics as the crucial supports of critical systems in a digital society.

As Coordinator, Dr. Shklovski will chair the GA, ensure scientific and technical coherence of all R&D activities in the project and act as the consortium's administrative interface to the Commission. Dr. Shklovski will draw on the experience from the EU research unit at ITU, which will act as the Management Support Team to assist with the administrative tasks. The coordinator's tasks will also include management of technical progress towards the objectives and deliverables of the project plus the exchange of results and knowledge between the partners to enable cross-fertilisation of ideas and data flow needed to support concurrent tasks. To achieve this Dr. Shklovski will coordinate scientific/technical activities and communication between partners within work packages. Coordinator will also be responsible for overall Risk Management (cf. below), including recommendations to the GA with regard to revised strategies. Throughout the project Dr. Shklovski will work in close collaboration with the DM in order to assure full activity collaboration with all R&D and dissemination activities.

The **Management Support Team**, consisting of ITU's staff, will assist and facilitate the work of the Coordinator and other Consortium bodies in the day-to-day administration of the project. The administrative staff will assist in legal matters, ICT support, including administration of the VIRT-EU website and data systems. Also, it will manage all cost statements and provide support on other administrative aspects, such as assisting the DM with setting up meetings and conferences, etc.

The **General Assembly (GA***)* is the project's decision-making group for all questions related to the project's strategy, organisation and operations towards goal achievement and external relationships, in particular with the European Commission. The GA is comprised of one representative from each of the Consortium partners, and chaired by the Coordinator.

The GA members will deliberate, negotiate and decide on all matters specified in the CA, and all partners must abide to all decisions taken by the GA. The GA will consider and decide upon all proposals put forward by the Coordinator and the STM in accordance with decision-making procedures set out below. The GA will discuss and evaluate the implementation plan and the project management wiki system proposed by the Coordinator, providing feedback and suggestions if necessary. The GA will meet according to need – but at least every four months – to define and review strategic priorities, monitor and review progress made and agree on actions for coming period. This work will be based on a report from the Coordinator with input from the STM. Furthermore, the responsibilities of the GA include:

- Deciding changes to the Grant Agreement to be proposed to the Commission
- Making changes to Consortium Plan and IPR issues
- Changes to the consortium
- Deciding if part of or the whole of the project should be terminated
- Supporting the Coordinator in preparing for meetings with the Commission
- Preparing the content and timing of press releases and joint publications by the Consortium.

A key task of the GA is to manage project risks and to take decisions in reaction to identified or emerging risks with a view to both development and achievement of the project results. In this context, key milestones have been identified (detailed below in Table 3.2a) to be used as control points in the project (e.g. to make critical decisions) and help measuring its progress.

Table 3.2a List of milestones

Number	Milestone name	Related WP(s)	Estimated date (month)	Means of verification
M 1.1	Detailed implementation Plan approved by the consortium and ready to implement	WP1	M02	Document / Gantt chart
M 7.1	Detailed Dissemination Plan approved by the consortium and ready to implement	WP7	M02	Internal document
M 7.2	Launch project website	WP7	M06	Public Event
M 2.1	Initial multiplex network of collaboration and co-attendance	WP2	M9	Internal report
M 4.1	An initial definition of the PESIA methodology	WP4	M12	Internal report
M 3.1	Metrics for network data analysis defined and implemented	WP3	M14	Internal report
M 1.2	Mid-term report and progress evaluation	WP1	M18	Public report
M 4.2	An initial overview of sector-specific issues concerning the application of PESIA	WP4	M20	Internal report
M 5.1	Delivery of prototype tools for developers, design scenarios, and scripts to inform work in WP6	WP5	M30	Internal document
M 6.2	Measurement of the effects obtained by the project on the European IoT community	WP6	M34	Public data presentation
M 1.3	Final deliverables and reports	WP1	M36	Document
M 6.1	Deployment of VIRT-EU Service package on ORG website	WP6	M36	Public report

Work-Package Leaders (WPL) will be appointed for each work-package. The Work-package Leader is nominated on the basis of their technical expertise to ensure the high level of knowledge in the dedicated WP. His/her tasks will be:

- To monitor the progress of the scheduled work within the work-package in terms of technical achievement and planned deliverables.

- To manage WP meetings that will be organised every 6 months and more often if necessary, and to report to the STM and project coordinator on all matters related to the work performed within the work package (planning, costs).

- To collect the information needed to prepare interim and periodic progress reports and to consolidate these inputs and ensuring overall coherence.

- To review and approve the WP deliverables

The Advisory Group (AG): The Advisory Group with representatives from organizations and associations supporting and representing industry, advocacy, and academia has been established. The main objective of the AG is to follow the project and provide relevant data, feedback and recommendations to the GA with respect to the needs, expectations and views of the Academia and industry about the developments produced during the project. The companies, universities and associations participating in the AG are listed below:

Academic Advisors:

- Professor Mireille Hildebrandt, Vrije Universiteit Brussel (BE)
- Professor Lilian Edwards, University of Strathclyde Glasgow (UK)
- Professor Ian Brown, Oxford University (UK)
- Professor Ann Light, Sussex University (UK)
- Professor Jon Crowcroft, Cambridge University (UK)
- Dr. Seda Gürses, Center for Information Technology & Policy, Princeton University (US)
- Dr. Balazs Vedres, Center for Network Science, Central European University (HU)
- Dr. danah boyd, Data & Society Research Institute and Microsoft Research (US)
- Dr. Gina Neff, Oxford Internet Institute (UK)

Practitioner Advisors:
- London Innovators Advisor –Alexandra Deschamps-Sonsino (UK)
- Large Enterprise Advisors – Dawn Nafus, Intel Corp. (US)
- Hacker/Hardware Platforms Advisor – Eric Pan, CEO, Seeed Studio (CN)
- Maker Advisor – Amanda Williams, Fabule (Canada)

Internet of Things/Techno-Social Innovation Advisors:
- Srdjan Kcro, IoT Forum, Dunavnet.EDU (SL)
- Mark Pous, theThings.io (ES)
- Rob van Kranenburg, Internet of Things Council (BE)
- Tomaž Vidonja, ICT Technology Network Institute & Living Bits & Things (SL)

The consortium members will organize conferences, workshops, seminars with the participation of the AG members for presentation and discussion of key results, gathering input and feedback, and for planning activities ahead. The AG is split into three groups who will advise at different stages in the project. The Internet of Things/Socio-technical Innovation Advisors have agreed to facilitate research access to some of Europe's most influential IoT communities; the Academic Advisors will advise us based on their specific professional expertise while Developer/Civil Society/Industry Advisors will help to transfer of scientific results to technical communities. Finally, we will call on the entire board to support development of project outputs through feedback on prototypes.

The AG will only be invited to provide input and recommendations to the project, and hence has no formal governance power in the project. All participants in the AG are fully aware of their responsibilities and are fully committed to the project with confirmed participation. All advisory board members have committed to participating in by-annual online half-day seminars and one in-person meeting. We have set aside a budget for necessary travel to one advisory board meeting towards the end of the project which will be held in conjunction with the international conference and design challenge organized by the consortium (see WP6). The advisory group will also be engaged throughout the project via online meetings and seminars.

3.2.3 Decision making and conflict resolution
Each member of the GA present or represented in the meeting shall have one vote. The GA shall not deliberate and decide validly unless a quorum of 2/3 of its members is represented. Decisions shall be taken by simple majority, with the Coordinator casting the deciding vote in case of a tie. Final decisions on actions ahead and possible conflicts will be taken by the GA. All decisions taken in the GA will be recorded and communicated to the Consortium by the Coordinator at the latest within 2 working days. Partners have a right to veto decisions if they can show that their own work, time for performance, costs, liabilities, IPR or other legitimate interests will be severely affected by a given decision. Every effort will be taken to resolve such matters to the general satisfaction of all members. Defaulting partners may neither vote, nor veto.

The Coordinator and the DM via the Coordinator, will prepare GA meetings by submitting status reports, etc. In cases where decisions need approval from the Commission, the Coordinator will present such proposals for GA decisions to the Commission. If needed, the Coordinator will obtain a mandate by the GA to negotiate with the Commission on behalf of the Consortium regarding any major changes to the project.

A conflict resolution mechanism will be put in place, whereby all emerging conflicts or decision-making divergence will be submitted to the Coordinator for mediation and resolution. The resolution techniques used by the Coordinator are based on the following elements:

- Involved parties present case and the Coordinator fact-finds by probing circumstances
- The Coordinator provides the conflicting parties with a fact-based and neutral report
- The Coordinator asks parties to give a status of the dispute and possible solutions
- The Coordinator reports his recommendations to the GA based on the fact-finding
- The GA takes a final decision to resolve the conflict.

In the unexpected case of severe persistent conflicts external mediation aid might be sought. Nevertheless, the Consortium has been configured to prevent this need. In cases where decisions need approval from the Commission, e.g. with regard to changes in partners or budgets, the Coordinator will present such proposals to the Consortium and obtain a mandate by the Consortium to negotiate with the Commission on its behalf.

Confidentiality issues: The partners agree to follow guidelines on confidentiality issues as these will be agreed in the CA. Should any confidentiality issues arise, they will be submitted to the DM and the Coordinator for mediation and resolution. If needed, such issues will be presented to the GA for resolution among all partners.

3.2.4 Meetings
Regular meetings of the GA chaired by the Coordinator, held at M3 and M6 to ensure an efficient launch of the technical work and then every 6 months. WP meetings (face to face or video conference): organised by the WPL, when necessary according to the work plan.

3.2.5 Reporting
Periodic report including technical and financial status will be organised each reporting periods (Months 18 and M36). Annual report presenting the WP progress synthesis supplied by the WPLs and the costs statements provided by each partners will be produced by the coordinator and reviewed by the GA. These reports will be approved and submitted to the EC.

3.2.6 Communication
A web-based fully secured community platform will be implemented by the Nexa Center, the VIRT_EU gateway. The community platform will provide an online forum to bring together all the people working on the project, and the material produced.

Consortium partners will engage in monthly all-consortium online meetings for progress updating and a series of internal in-person data analysis and synthesis seminars throughout the project to ensure a good collaborative process and data exchange (see Tasks 2.6, 3.5, 4.5 and 5.1).

Special attention will be given to communication with parties outside the Consortium, such as other European project consortia. For this reason the VIRT-EU gateway will be able to categorize material of the project, to enable matchmaking between external stakeholders that deal with the same or similar VIRT-EU topics: we expect that the gateway will be extremely useful for putting in contact the people on the ICT ridge and on the SSH one.

In addition, the planning for publications to be produced, presentations to be given and conferences to be attended on behalf of the Consortium will be defined. Communications to the general public will be broadcasted through the VIRT-EU gateway, the project website that will attract visitors and search engines.

In conclusion, the project management structure and procedures are designed to ensure an effective attainment of the project objectives, making sure that corrective action is taken in case of errors or misconduct, while also allowing for a simple, flexible and efficient implementation.

3.2.7 Innovation management
The GA is in charge of managing all innovation aspects. In case of occurrence, IP matters will be handled with reference to the best-practice guidelines defined by the DESCA group who —mandated by the European Commission — have suggested good practice rules for IPR and a model Consortium Agreement. As a guiding principle, the knowledge generated in this project (including the recommendations for design, reports, and white papers) will be disseminated and made available openly online via open access publishing and using Creative Commons licenses where feasible. This will ensure that the knowledge generated through this project will be exploited in future research, policy and regulatory agendas.

The Dissemination Manager (DM) will be responsible for project innovation activities (dissemination of new knowledge and transferable results). He will prepare and present to the GA an innovation plan to be followed by all partners. The plan will involve:

- Describing and building a system for collecting and filing ideas derived from the different WPs. The Innovation Notification System (INS) will serve to keep track of ideas and the eventual processing of such ideas to a realisation phase.

- Securing, at regular meetings, that novel ideas are registered upon communication by the WP participants.

- Securing that the ideas are presented to the GA. The GA will decide whether an idea is within the field of the project activities or whether an idea is outside of the field. If it is inside the field the GA will determine whether or not to pursue (e.g. reduce to practice and eventually protect) and work on the idea

within the consortium. If an idea within the field is not pursued within the consortium, a project partner who is interested in pursuing the idea outside of the project may be given approval to do so according to a separate agreement.

• If an idea is deemed to be outside the field of the project, then it is considered Sideground and belongs to the party or parties who generated the idea.

The DM will also draft a formal Dissemination Plan detailing the planned dissemination of the project results. The plan formalise the methods of disseminating the project results. The DM will maintain a version of the Dissemination Plan, and keep it updated. The GA approves the Plan and the DM will inform the Coordinator on the progress status at regular intervals. Dissemination activities will include, inter alia, publication of scientific results in journals; presentations at scientific and industry relevant conferences and trade shows; and the creation of VIRT-EU website. In order to engage with the academic public, we are publishing scholarly opinion pieces in open access journals for wide outreach. More details on dissemination activities are specified in section 2.2 and WP7.

The Nexa Center is in charge of identifying and hiring the Dissemination Manager through a public call before the beginning of the project. The Directors of the Center will ensure the quality and match of the profile candidates with the VIRT-EU specific needs.

3.2.8 Management and Quality Plan
The Management and Quality Plan is the "handbook" of the project to be used on a daily basis, and a common reference document to researchers and managers. It will be continuously updated in order to regularly improve the project practices. It is established by the Coordinator and agreed on by the participants in order to detail explicitly and formally all management aspects, the tools to be used in the project, agreed rules, methods, means to be applied or used for managing.

This document is the key reference within the organisational structure when looking for operational rules. All participants must use it for all aspects of management, project control, communication mechanism, and documentation or quality assurance within the project.

This project Management and Quality plan will be set up as repository of useful information, to be used by the project participants on a daily basis. It will consist of a main document with the basic information and reference to specific documents (annexes) available through the internal website accessible by all partners. It will include:

• The project directory, with the names and contacts of all participants, in particular the project managers and the WP leaders, the maps and locations of partner's sites;
• The table of all next meetings of the project, at the level of the WP;
• The templates of documents, forms and files;
• The updated summary table of person-months for each WP and each partner;
• The scope and objectives of the Project;
• The allocation of work by partner across the work packages as presented in the WP description;
• An overview of the management organisation and the management entities: individual functions as well as teams;
• A description of the Project management tools and the management and reporting mechanisms, and the communication rules;
• A description of the rules for the organisation of management meetings;
• A description of the risk management process.

3.2.9 Risk analysis, mitigation and contingency planning
Risk management and contingency planning will be implemented proactively in the project. In general, we will apply the Risk Mitigation, Monitoring and Management (RMMM) method, which attempts to anticipate risks before they become an actual problem. Accordingly, any potential risks are identified and listed. The probability and impact of each risk is prioritised according to importance through the use of a risk table followed by a plan for the management of potential risks. The coordinator will act as the overall responsible for continuously carrying out risk management, including the implementation of effective procedures for risk identification and mitigation, to minimize any potential negative effects.

The main risks associated with each project phase have been assessed and are listed in Table 3.2b. Moreover, the partners have outlined actions to mitigate risk and/or a contingency plan for each identified risk. Finally, after the completion of each work-package there will be a risk assessment of the results achieved to verify the way ahead or correct the action route in accordance with any alternatives identified.

Table 3.2b Critical Risks for Implementation and Contingency Planning

Description of Risk	Level	Proposed mitigation measures
User participation risks		
Difficulty in gaining entry into the IoT communities at selected field sites (WP2, 3)	Medium	The consortium consults with the multi-stakeholder advisory board as entry into communities relies on pre-existing contacts. Field sites are selected based on quantitative data analysis and presence of pre-existing contacts that would welcome researchers into the community
Difficulty in attracting industry participants for co-design and workshops (WP3, 5)	Medium	The consortium leverages relationships developed in the course of qualitative research in WP2 and WP3 as well as consults with the IoT industry members of the multi-stakeholder advisory board.
Difficult in attracting participants for design challenge (WP6)	Medium	Discussions of the design challenge event will continue with participants throughout qualitative fieldwork. Consortium will devote resources on publicising the event via social media and methods commonly accepted in communities under study. Engagement with external institutions such as the Alan Turing Institute and the Open Data Institute will ensure greater publicity.
Management risks		
A partner withdraws from the project (All)	Low	The consortium checks whether the tasks of the partner can be handled by other project partners (thus rearranging budgets), or if a new partner needs to be found.
An employed team member leaves the project leaving his/her task unassigned (All)	Medium	First the partner must try to find a replacement. If no replacement can be found, the unassigned tasks can be moved to other project partners (thus rearranging budgets). If the unassigned tasks are significant enough, another partner may be found.
Work package or task takes substantially more time than planned (All)	Medium	Other tasks, depending on the delayed task, need to be rescheduled. Resource allocation of the involved tasks may be rearranged to secure project goals and milestones.
Technical risks		
Technical problems during data collection phases (WP2 + WP3)	Medium	Consistent planning during the data collection phases, willingness to provide extra resources if needed. While the consortium has already extensive knowledge of data collection from social media changes in the data-access policies of online services may result in replacing some planned data sources with similar online social network sites.
Data corruption and/or data loss (All)	Medium	Data encryption and limited access to the data under NDA agreement. Regular backups. Data will be mainly static, so easy to safeguard.
Technical difficulties to scale multiplex network analysis to large online networks (WP3)	High	Forward planning of analysis phases. Willingness to provide extra resources, or computational power if needed. The development of fast approximate analysis algorithms is

		already planned to deal with this. Some analyses can be performed on selected subsets of the data, reducing their complexity.

3.3 Consortium as a whole

The VIRT-EU consortium includes the expertise, skills and resources necessary to achieve the project goals. Our consortium possesses complimentary rather than redundant competence across all partners. Every member of the research team outlined in Section 4 has significant experience in interdisciplinary work on the topic including qualitative studies of privacy concerns, social technologies and innovation, policy-related engagement with technology innovation, legal study of privacy and data protection by design in the arena of the Internet of Things, qualitative and quantitative approaches to the study of social networks, structural social network analysis, interaction design, participatory design and co-design, evaluative methods and deep knowledge of the community under study. Partners were chosen based on their credentials and competencies within their specific areas of expertise, availability for the project period, and commitment to the attainment of project objectives, as well as on prior experience in cooperation and collaborative work.

VIRT-EU has brought together research partners with a set of specialized methodological and substantive expertise within individual related disciplines, who also have significant interdisciplinary research skill sets. The core-competencies of the group span Human Computer Interaction, Information Sciences, Communication Studies, Sociology, Interaction Design, Computer Science, Database management and data mining, Qualitative and Quantitative Methodologies and Evaluation, Design Research, Organizational Studies, Innovation Studies, Studies of Communities of Practice, Ethnographic Practice, Law, Science and Technology Studies and direct experience with policy makers, civil society organizations and developer communities. The team assembled here represents a truly pertinent and outstanding consortium of European academic, law, policy, civil society, development and design expertise.

Consortium leader ITU's expertise in organizational communication, big data methods, pricacy, social network analysis and human computer interaction complement LSE's expertise in the study of innovation cultures, knowledge production and technology policy. POLITO's expertise in privacy law and policy development for privacy and data protection by design will support the empirical studies of the ITU and LSE by giving them a clearer understanding of legal principles and requirements. At the same time, the ethnographic and communities of practice studies of the other partners provide empirical evidence in order to better define guidelines for the development of PESIA. Both ITU and LSE have substantial prior experience in conducting ethnographic studies of communities of practice in and with technology developers and communities focused on entrepreneurship, activism and social innovation in the UK, USA, Canada and Denmark as well as promoting technology transfer to local communities. The partners offer an opportunity for an interdisciplinary investigation of the social values prevalent in the developer communities under study, for an understanding of how privacy and data protection are conceptualized and implemented in practice, and for the development of concepts for policy and regulatory agendas.

UU's technical expertise in database systems and network analysis and data mining in combination with ITU's competences in computational social science, SNA, ethnography and relational practice will lead to theoretical and algorithmic advances in SNA and provide a unique opportunity to develop innovative methods for connecting qualitative and quantitative methods. This enriches our ability to exploit both types of data. Both partners have significant experience in working with structured and unstructured datasets, in collecting and analysing public data, in data integration and in ethical handling of datasets through anonymisation techniques.

LSE's expertise in ethnographic practice, qualitative and design methods connects with ITU's expertise in Interaction Design and Human Computer Interaction, CIID's expertise in Interaction Design, Design Thinking and Participatory methods and ORG's expertise in engaging diverse stakeholders in discussions of issues around open data and privacy. The consortium holds a complete set of skills and expertise for successful stakeholder engagement and co-design. CIID, ITU and ORG can develop tools and materials for developer communities and other stakeholders that will be made available to the communities through ORGs developed online presence as well as the VIRT-EU website to make PESIA self-assessment tools, actionable scenarios for ethical reflection and design and scripts for engaging in interdisciplinary collaborative

workshops and discussions available to the European IoT developer community, civil society organizations, activists and other stakeholders.

Each of the partners plays a crucial role in the project and all of the skill sets will be necessary to conduct a truly inter-disciplinary synthesis of research findings for engagement with multiple academic, civic, entrepreneur and policy communities. All of the partners share essential prior experience of inter-disciplinary research, publication in multiple fields and experience in engagement of multiple stakeholders. This ensures our consortium's ability to successfully achieve the project goals.

3.4 Resources to be committed

The total personnel effort planned amounts to 257 person-months (PMs) – with all partners involved at least 24 months out of the project's 36-month duration. The coordinating partner leads the effort followed by POLITO and LSE, in this order, which together will lead two of the main areas of research. The total, direct costs for personnel are €1 456 461, with the effort across work packages summarized in table 3.4a below.

Table 3.4a Division of Person/months per WPs

	WP1	WP2	WP3	WP4	WP5	WP6	WP7	Total Person/Months per Participant
1/ITU	**15**	10	20	0	9	8	3	65
2/LSE	1	**10**	12	2	8	8	1	42
3/UU	1	10	**15**	0	3	3	1	33
4/POLITO	1	6	0	**28**	5	2	**19**	61
5/CIID	1	3	9	0	9	**9**	1	32
6/ORG	1	4	2	6	5	4	2	24
Total Person/Months	20	43	58	36	39	34	27	257

Reflecting the critical nature of all substantial work packages, all areas of the work plan have allocations equal to or exceeding 20 PM. The critical and personnel intense work packages are primarily related to the empirical studies of developer communities of practice and co-design (WP2 and WP3) and account for a total of 101 PMs, which is approximately 40% of the total effort. Similarly a major resource concentration surrounds the policy and legal analysis (WP4), with a single allocation of 28 PM dedicated to one partner, POLITO given their concentration of relevant expertise.

Management, dissemination, communication and exploitation
A total of 20 person-months are dedicated to project coordination (WP1), which are seen as reasonable given that this WP also includes the activities of the S&T management – corresponding to only approximately 7.52% of the project budget for personnel resources (€136,830). The total costs relating to WP7 on Dissemination account for approximately 8.75% of the total budget. We have a very ambitious dissemination strategy with somewhat untraditional activities, following diverse channels – combining both traditional academic dissemination activities with conferences, workshops, co-design efforts, open data and open dissemination strategies and translation from scientific findings to practical tools for technical communities, (c.f.: Section 2.2). The associated costs for WP7 include personnel, which amount to 27 PM with POLITO having an allocation of 19 person-months which illustrates their role as EDM, and €127,000 in direct costs for supporting travel, conference organizing, workshops and other types of engagements with stakeholders. This amount includes €12,000 to support in-person attendance of the multi-stakeholder advisory board members and the cash prize that will be awarded for best prototype design at the Design Challenge event in London in M30.

Overall, the budget for management activities, as well as dissemination and communication activities (totalling less than 17% of the total budget) recognizes that effective dissemination requires tailoring of communication styles and dissemination approaches. VIRT-EU dissemination budget enables a more diversified dissemination activities specifically designed to engage a broad range of stakeholders and target

groups from the academic and advocacy communities to technology developers, entrepreneurs, hackers and community innovators.

Other direct costs

In VIRT-EU several research seminars and full group meetings among partners are envisioned throughout the project. In particular, the following is planned: 2 conferences with the final conference including an in-person Advisory Group meeting (with 3-day duration), 2 full Consortium meetings – dedicated to dissemination and communication planning and implementation, technological development evaluation, and work progress monitoring, 3 all partner research data synthesis seminars. In addition, VIRT-EU foresees partner participation in up to 3 academic conferences per academic partner during the entire project duration. In total approximately 60 trips and well over 100 days of traveling. Therefore, **travel costs** account for **€76,000** including €16,000 for partner travel to fieldwork sites outside their own countries for qualitative data collection, co-design workshops and other forms of direct engagement with developer communities of practice and stakeholders. Only partners involved in ethnographic research (ITU & LSE) and co-design (CIID & ORG) have been allocated fieldwork travel budget commensurate with prior experience in such research.

In addition €7,000 has been allocated to support Advisory Board member travel to the VIRT-EU Design Challenge and €5,000 will be used as prize money for the best prototype designs produced during the challenge. As the Design Challenge event will be held in London, LSE will serve as the local organizer. LSE will thus be responsible for arranging Advisory Board member travel. Further, LSE, together with SME and NGO partners CIID and ORG will work to attract additional funding support for event organizing and promotion.

In addition to the Consortium's own expertise and personnel resources, and to the travel costs, a total of €39,000 is allocated to organizing and hosting meetings, co-design workshops with developers and co-creation workshops with stakeholder groups. Direct involvement with developers and other relevant stakeholders is of utmost importance not only for achieving VIRT-EU research goals but also for mitigating risk elements described in table 3.2. VIRT-EU is able to utilize available resources such as cost-free workshop and conference venue access through ITU, LSE, UU and POLITO to limit these costs thus offering a significant number of activities and workshops at a much lower cost to the EU budget.

None of the partners have other direct costs exceeding 15% of personnel costs, hence no 3.4b table.