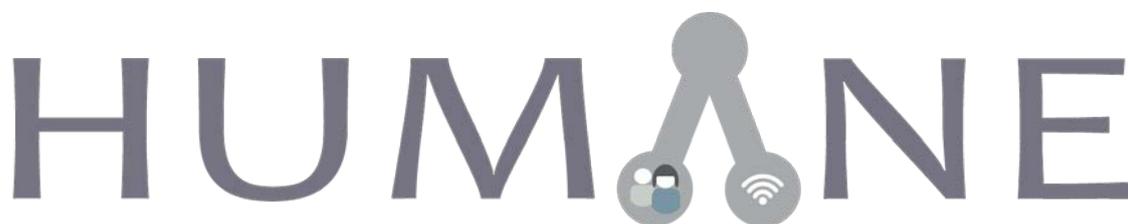


ICT-31-2014: Human-centric Digital Age

Project number: 645043



A typology, method and roadmap for HUMAN-MACHINE NETWORKS

Deliverable D5.6

Final overall report of dissemination and exploitation

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Reviewer	

Abstract	In this report, we provide a final overall report on dissemination and exploitation activities in the HUMANE project. We outline our overall perspective and philosophy on openness and transparency within the project. We also describe our main strategies including organizing a HUMANE workshop, publishing journal and conference papers, generating and distributing the dissemination kit, participating in clustering events, our online presence through the project website and social media, producing the project collaterals, and finally releasing the project summary. We have identified the target audience for HUMANE, determined the type of messages to convey to each group, and compared our performance with the performance indicators set to measure and track the dissemination activities in the project. This report gives an overview of these activities.
Key-words	dissemination; online presence; publication; communication; exploitation, stakeholders.

Versioning and contribution history

Version	Date issued	Description	Contributors
V01	12/06/2017	First draft	UOXF
V02	13/06/2017	Completed draft	UOXF, SINTEF, ATC
V03	13/06/2017	Comments from partners incorporated and the deliverable polished.	UOXF, SINTEF, ATC, IT Innovation

Definitions and abbreviations

Abbreviation	Definition
HMN	Humane-Machine Networks
ICT	Information and Communication Technologies
KPI	Key Performance Indicator
R&D	Research and Development

Executive summary

This deliverable describes the dissemination and communication within the HUMANE project and provides a comprehensive overview of the actions that we took to support outreach efforts necessary to disseminate and sustain the achievements and benefits of the HUMANE project. We report on HUMANE stakeholders, and dissemination and communication events to reach relevant parties and make HUMANE results easily available. We also explain how we analysed and facilitated the exploitation of the project results.

We identified the target audience and channels through which we will communicate the HUMANE findings with. Moreover, we sought the best approaches to engage and inform stakeholders to maximize knowledge of the HUMANE roadmap and activities.

The online presence of HUMANE was launched in M2 of the project in the form of a website and a Twitter account. The redesign of the project website was initiated in year 2, in line with the changing marketing demands as the project matures. This to facilitate a more effective practical exploitation. The maintenance of the material has been continued throughout the project life with plans to sustain beyond the end of the project.

The HUMANE Workshop has been organized successfully, and a number of project publications are published or submitted to scientific journals and conferences over the course of the project and beyond.

TABLE OF CONTENTS

Executive summary	5
1 Introduction	9
1.1 Openness	10
1.2 Exploitation.....	10
1.2.1 HUMANE exploitable results	10
1.2.2 SWOT analysis	11
1.2.3 Exploitation targets and means.....	12
1.2.4 Partner Exploitation Activities.....	12
2 Dissemination and Communication Strategy	13
2.1 Target Audience and Message	14
2.2 Dissemination and Communication Activities and Events	15
2.2.1 Academic Conferences and Publications	16
2.2.2 Industry/public conference talks/presentations.....	17
2.2.3 Research Data.....	18
2.2.4 Dissemination Leaflet	18
2.2.5 HUMANE Video clip.....	19
2.2.6 Clustering.....	19
2.2.7 Project Website and Social Media.....	20
2.2.8 Weblog.....	21
2.2.9 Mendeley Group.....	22
2.2.10 Press Releases and media coverage.....	23
2.2.11 Humane Workshop.....	23
2.3 Dissemination tactics summary.....	24
3 Activity Schedule	25
4 Key Performance Indicators	26
4.1 Website views:	26
4.2 Twitter:	27

4.3	HUMANE Workshop:	27
4.4	Overall Evaluation	27
5	Conclusions	28
6	References	29

LIST OF FIGURES

Figure 1 The HUMANE Leaflet: V02.	19
Figure 2: A Screenshot of the initial design of the humane2020.eu website.....	20
Figure 3 A Screenshot of an example of the HUMANE typology tool to be added to the front-page of the website.	21
Figure 4 A Screenshot of the HUMANE Mendeley group	22
Figure 5 The HUMANE logo	22
Figure 6: The monthly number of views and unique visitors to the HUMANE website	26

LIST OF TABLES

Table 1: Stakeholder/Audience matrix.....	15
Table 2 Summary of activities.	24
Table 3: Plan for key activities.....	25
Table 4: Evaluation of the HUMANE dissemination quantitative aspects	27

1 Introduction

This document is an overview on dissemination and communication activities that are carried out over the course of the project. Moreover, we address how the new strategies and performance measures we set in D5.1 Interim and D5.5 in order to implement a more effective dissemination and exploitation, have been met and whether we achieved the set KPI's.

Our activities during the first year of the project were based on the dissemination and communication plans outlined in D5.1. At the end of the project in year one, we revisited our plans and produced an interim version of D5.1. The main points of update during the second year of the project in comparison with the initial plan and our approach in the first year (in light of comments from the project reviewers) can be summarized as follows:

- The dissemination to the other (non-scientific) target groups (ICT constituency and public bodies) have been the focus of the second-year activity. Even though HUMANE has been very successful in producing and disseminating to the scientific audience, it was felt a need for further activity to extend the dissemination to ICT and public sectors.
- The online platform has been developed and for the first period is in line with the expectations, however the second period emphasized on the tools developed and made it more attractive for the different target groups, as it needs to evolve from a project website to a real portal for the potential users.
- Key Performance Indicators (KPIs) have been established and monitored during the remaining period. The impact of the dissemination strategy has been followed in time and maximized.
- The areas of interest and the type of the messages to the target audience have been determined.
- The dissemination and communication activities have in year 2 been more clearly linked to the exploitation of the project results.

In HUMANE, special attention has been paid to make dissemination of final outcomes visible, customizable and open licensed in order to generate direct involvement of new stakeholders. The consortium members as well have been disseminating the results of the project already from the inception phase of the activities with a wide network of contact and partner organizations. Transparency and openness has been at the centre of HUMANE and all project partners made sure that all the steps taken throughout the project are well documented and disseminated.

1.1 Openness

The dissemination of the results has been promoted and licensed in a manner that provides users with the right to make more kinds of (re)-use and improvements than those normally permitted under exclusive rights. These permissions are granted to users free of charge. Four key principles has been embraced for the promotion and dissemination of the research outcomes:

- **Reuse** - the right to use the content in a wide range of ways (e.g., in R&D, in a study group, on a website, in a publication).
- **Revise** - the right to adapt, adjust, modify, or alter the content itself (e.g., translate the content into another language, adapt or adopt them in new contexts).
- **Remix** - the right to combine the original or revised content with other open content to create something new (e.g., incorporate the content into a mash up or new developments).
- **Redistribute** - the right to share copies of the original content, revisions, or remixes with others stakeholders or communities (e.g., give a copy of the content to human-machine networks designers).

Our dissemination plan considered opportunities beyond the academic audience and beyond EU borders.

1.2 Exploitation

The main strategy for exploitation has been outlined in D5.5 (“Exploitation strategy”). The aim of the HUMANE exploitation strategy was to expose the project results to policy makers, the ICT industry and academia, so as to guide and support future ICT innovation, as well as prompts regulatory and policy-making activities. The exploitation strategy addressed how to spark off the uptake and adoption of the results, both within the HUMANE timeframe but also after the project has finished. The dissemination activities and the open access policy of HUMANE support the exploitation, but additional means are needed for realizing the expected impact.

1.2.1 HUMANE exploitable results

The exploitable results of the project were:

- The HUMANE typology and method
- The HMN profiling tool
- The HMN modelling and simulation proof of concept
- The HUMANE roadmaps in the fields of shared economy, eHealth, and citizen participation, as well as the general roadmapping process, which can be followed to develop HMN roadmaps for other domains

The HUMANE typology enables profiling of a HMN on a focused set of generalized dimensions. It takes into account the implications the HMN will have for factors such as user experience and motivation,

behaviour and collaboration, privacy and trust, etc. The HUMANE method consists of a set of steps needed to apply the HUMANE typology for human-centred design of HMNs: The method takes as a starting point a profiling of the target HMN, identifies similar networks, examines design implications, and evaluates the most suitable design strategies (i.e., design patterns on a strategic level, not tied to detailed implementation but to strategic choices). The HUMANE profiling tool allows the automatic profiling of HMNs, whereas the HMN simulation modelling and proof of concept shows the benefits of simulating different design strategies in HMNs before they are implemented in real systems.

The HUMANE roadmapping process is a systematic method, presented as a sequence of steps, for achieving the higher-level goals and the desired social benefits of HMNs, but also specific actions required by stakeholders and the timeline for their implementation. It is meant to be applied in social domains where HMNs are prevalent, and aims to find actions and strategies that optimize HMN operation. It includes the selection of design strategies based on the characteristics of humans and machines in the social domain of interest. Roadmaps for HMNs in the fields of the sharing economy, eHealth and citizen participation were produced based on this process, which will be disseminated to policy makers, ICT designers, as well as other stakeholders to serve as a guide for future policies and for possible implementation.

1.2.2 SWOT analysis

The SWOT analysis presented in D5.5 showed the potential of the project outcomes for systematically addressing key implications in the design of HMNs and for achieving the requirements of human-centred design in networks of multiple interacting human and machine agents. Particularly strong points for the exploitation strategy are the support for profiling HMNs by an online tool, and the demonstration of a proof-of-concept for simulating design strategies, in order to examine their efficacy before they are applied. These practical tools compensate for the primarily theoretical results of the project and facilitate the application of the knowledge produced. However, the theoretical results are also part of the exploitation, highlighting the establishment of links between otherwise abstract notions, such as user experience, motivation and trust with specific design strategies and their quantifiable outcomes. Additionally, the repository of design strategies with the classification based on the HUMANE typology can be a rich reference which allows the cross-domain transfer of design knowledge. Finally, the roadmaps can be a valuable asset to policy makers and other stakeholders, as they do not only contain high-level assessments, but also specific actions, which can provide concrete improvements for HMNs.

The SWOT analysis also allowed revealing weaknesses and limitations of the project outcomes, which should also be taken into account during exploitation. First, one should bear in mind that in most of the outcomes, HMN design is focused on a strategic level while implementation details are left out. Therefore, practitioners need continued support for integrating the HUMANE typology and method into the system design. Focusing on a higher level allows the project analysis and results to remain relevant with time and withstand technological changes; nevertheless monitoring HMN evolution is

necessary, in order to maintain the design practices up-to-date. Furthermore, the simulations were necessarily narrow and only examined selected “what-if” scenarios for two HMNs (Wikipedia and TrulyMedia, an online news verification platform). Simulations should be performed for other scenarios and use cases relevant to a particular HMN, as extrapolated conclusions from other cases may not be accurate. Finally, the roadmaps provide significant support for future thinking and decision making, but in many cases higher level strategies should be elaborated into concrete actions, and more detailed milestones should be derived by the implementing parties.

1.2.3 Exploitation targets and means

The main target audiences for the HUMANE exploitation are the ICT industry, public bodies and decision makers, and the scientific community. The goal of exploitation is to guide and support future ICT innovation, regulatory and policy-making activities, but also to further promote the consortium partners’ expertise in policy design, modelling and validation.

Through the interlinked design practices and case-studies, HUMANE is well positioned to reach out to relevant ICT-developers and designers. The roadmapping process and the roadmaps provide easily applicable guidance for technology planning, which can help policy makers and regulators guide future policy making. Finally, the scientific community can benefit from the typology and method, as well as the rich repository of use cases and design practices, to improve and extend actor-network theory and related social phenomena.

The exploitation strategy aimed primarily to expose the value of the HUMANE outcomes, via appropriate dissemination and communication activities, and secondarily to support interested parties in using the outcomes. Additionally, it aims to promote the consortium partners’ own expertise in policy design, modelling and validation for future endeavors. Dissemination of project outcomes was mainly done through the HUMANE website, which was designed not only to show the publications to the scientific audience, but also the tools which attract the attention of practitioners. The HUMANE blog and social media channels, although targeted at a wider public, were also helpful in maximizing dissemination to our target audiences. Live events – particularly the HUMANE workshop, but also other conferences and workshops – helped in promoting results and establishing links between the consortium and other interested parties.

1.2.4 Partner Exploitation Activities

Joint actions for exploiting the results mostly involved the promotion of the project results via publications, conferences, and social media. They are discussed in detail in Section 2 that follows.

In D5.5 we presented the individual exploitation plans by the HUMANE consortium partners. These plans include the use of the HUMANE results as background for future national and EU research projects, but also the use of the knowledge produced to improve their currently available products (e.g. TrulyMedia by ATC, Zooniverse by UOXF), or to design future products. Other partners (e.g., ATC,

ITINNO and SINTEF) participate in associations or organizations, where the project results could attract significant attention (NESSI, BDVA).

In the exploitation strategy in M23 provided an overview of exploitation plans pr. partner.

SINTEF plan to exploit the HUMANE tangible results as part of ongoing and future project on human-machine networks, in particular in areas of decision support systems, emergency management systems, novel interaction forms such as chatbots and intelligent agents, and sharing economy networks. The HUMANE tangible results have already been included as background in national and European proposals for research and innovation projects, and will continue to do so throughout 2017 and beyond. As these projects are subsequently established, the HUMANE typology and method, as well as the roadmaps will be exploited as part of the innovation and research work.

ATC see the HUMANE tangible outcomes relative to its work in designing innovative solutions for data processing in social media, cloud-based services, virtual community platforms, and mobility solutions. The HUMANE typology and method will help ATC effectively design future smart applications for mobile devices that will be high rate of adoption by users. The HUMANE profiling tool can also be used by ATC when designing new products, or for major product updates that involve redesign.

IT Innovation plan to exploit the results from the project in ongoing collaborative applied research supported by public programmes and in professional services. The foreground IP gained in the development of the HUMANE typology, method, and roadmapping will feed into IT Innovation's key strategic research interests. A list of relevant project in which to apply and promote the HUMANE typology and method has been identified. Finally, the core software model of HMNs and simulation demonstrator developed for Wikipedia will be made available to the public as part of their OSS strategy.

UOXF main strategy for exploitation of the project results is to communicate the typology, methods, and the roadmap within the institution and beyond, such as in the context of the Zooniverse case. For UOXF, the typology and method can support theoretical analysis and cross-platform comparisons. The typology can also help UOXF, in particular Oxford Internet Institute, in providing consulting services for policy-making and industry partners.

2 Dissemination and Communication Strategy

Our dissemination and communication strategy was adapted to fit preferences and needs of different stakeholders. Here, we describe our activities in dissemination of results through scientific publications and conferences as well as public and industry events, workshops and conferences. We additionally describe the initiation of the HUMANE website and multi-channel presence online.

In the first year of the project, the aim was to build awareness and engagement about the ongoing work of HUMANE. In the second year of the project, emphasis on awareness and engagement remains important, yet in the second year of the project, we also focused more on the impact.

Particularly in the latter half of year two, work on optimizing impact was adapted to the HUMANE roadmap (WP4).

2.1 Target Audience and Message

Here, we list the target audience that we identified during the HUMANE dissemination and communication activities. In addition to that, we report how we used the appropriate channel through which each targeted group has been communicated with.

HUMANE's main target audiences were as follows:

1. **The ICT industry:** through the interlinked case-studies, HUMANE was well positioned to reach out to relevant ICT-developers and designers, though we also aimed to reach out beyond those with whom we liaison through the project work.
2. **Public bodies and decision-makers:** We used the HUMANE typology to develop a roadmap for human-machine networks to support future thinking, regulatory activities and policy-making in the field of ICT by providing easily applicable guidance for technology planning, actionable steps to leverage network-characteristics, and actionable steps to fit public and private solutions to different network characteristics. Dissemination and communication activities were aimed to make our work and results easily available and well-known among relevant bodies.
3. **The scientific community:** as an R&I project, we made efforts to disseminate the results of HUMANE work through relevant academic journals and conferences.

While the focus of the activities during the first phase of the project (typology and case studies) was on the scientific audience and R&D sectors, as the project entered the second phase (roadmap), it became more important to target non-scientific audience identified above (1 & 2).

In order to do so, the website was redesigned; centred around the tools to attract the attention of practitioners who will be interested in the implications of the HUMANE findings.

Moreover, in order to facilitate a better communication of the findings and tools generated in HUMANE, the focus of the HUMANE workshop was on these two target audiences. More details on the HUMANE Workshop is presented below.

Furthermore, we used the HUMANE weblog to communicate with the public audience. The weblog has been reporting on the progress and the findings in a non-technical language on regular basis. The weblog posts were linking to further publications and deliverables. More details are presented below.

We have also identified our target experts' and their corresponding field of interest as shown in the Table 1:

Table 1: Stakeholder/Audience matrix

HUMANE Audience	HUMANE										
	<i>WP-ICT FP7 Work Programme</i>	<i>Project Background</i>	<i>Next-generation HMNs</i>	<i>Methods, Tools, Cases</i>	<i>Research Challenges</i>	<i>Future Technologies</i>	<i>HUMANE Roadmap</i>	<i>Users' Surveys</i>	<i>Lessons Learned</i>	<i>Project Impact</i>	<i>News and Events</i>
The ICT industry			●	●		●	●	●	●	●	●
Public bodies and decision-makers			●	●			●	●		●	●
The scientific community	●	●	●	●	●	●	●	●	●	●	●

2.2 Dissemination and Communication Activities and Events

The forums (scientific journals and conferences) where research results appear are the ultimate measure of the output of any research activity. Therefore, one of the dissemination goals of HUMANE was to present the results of the research within the project in top rated scientific journals and conferences, preferably open access. Demonstrations of the different typologies of human-machine networks and their methodology was to be presented in related conferences, workshops and events in order to reach a wider audience and improve the involvement of different application communities. Establishment of close links with other projects active in the area human-computer networks, Internet of Things, and knowledge representation was to be sought mainly through the participation of the consortium partners in relevant activities.

Towards the end of the project, a workshop was organized by the consortium to present the results of the project together with the roadmap to all interested parties. The workshop invited contributions from ICT developers and policy-making, as well as researchers working in the domain of human-machine networks, and was open to all interested parties.

Finally, online presence and dissemination through social media has been among our core strategies. Online channels can easily bridge over disciplines and connect scientists, policy-makers, and technologists with the common interests. While physical presence at conferences and events bring their own limitations, we believe a comprehensive set of online activities can overcome most of the

geographical barriers and spread the results of the project beyond the naturally limited scope of the off-line events.

A list of our activities and events is provided in the following.

2.2.1 Academic Conferences and Publications

We presented the HUMANE results in different academic conferences and peer-reviewed journals. HUMANE aimed to publish in open access journals (gold open access), and to make publications behind pay-walls available as final peer-reviewed manuscripts in an online repository after publication (green open access). To ensure gold open access, the HUMANE budget included costs for Author Processing Charges. The data management plan ensured the publication of such manuscripts cohere with the embargo periods of publishers. We also made pre-prints and working papers available through the preprint repository arxiv.org and through our project website.

A list of our 15 academic publications is below, we did not include the forthcoming papers that are under preparation.

2.2.1.1 List of journal papers

1. Milena Tsvetkova, Ruth Garcia, Luciano Floridi, and Taha Yasseri. "Even good bots fight." PLoS ONE 12(2): e0171774. (2017).
2. Csilla Rudas, Olivér Surányi, Taha Yasseri, and János Török. "Understanding and coping with extremism in an online collaborative environment." PLoS ONE 12(3): e0173561 (2017).
3. Marika Lüders, "Mennesker og maskiner" Comment in Norsk medietidsskrift, 22(3), 2015.
4. Marika Lüders, "Innovating with users online? How network-characteristics affect collaboration for innovation", Journal of Media Innovations, Vol. 3 No. 1, pp. 4-22, 2016.
5. Milena Tsvetkova, Ruth García-Gavilanes, and Taha Yasseri, "Dynamics of Disagreement: Large-Scale Temporal Network Analysis Reveals Negative Interactions in Online Collaboration" Scientific Reports 6, Article number: 36333, 2016.
6. Milena Tsvetkova, et al. "Understanding Human-Machine Networks: A Cross-Disciplinary Survey." ACM Computing Surveys (CSUR) 50(1), 12.

2.2.1.2 List of submitted journal papers under review

1. Khairunnisa Ibrahim, Samuel Khodursky, and Taha Yasseri. "Spatiotemporal patterns of classifications to the Zooniverse." under review.
2. Petter Bae Brandtzaeg, and Asbjørn Følstad. "Usefulness and trust in online fact-checking and verification services" under review (collaboration between the HUMANE and REVEAL projects)
3. Petter Bae Brandtzaeg, and Marika Lüders. "Time Collapse in Social media: Extending the Context Collapse", under review (collaboration between the HUMANE and REVEAL projects)

2.2.1.3 List of accepted conference-papers

1. Asbjørn Følstad, Vegard Engen, Ida Maria Haugstveit, Brian Pickering, “Automation in Human-Machine Networks: How Increasing Machine Agency Affects Human Agency”, to appear in the Proceedings of ICMMI 2017, arXiv preprint, arxiv:1702.07480 (2017).
2. J. Brian Pickering, Vegard Engen, and Paul Walland, “The Interplay between Human and Machine Agency”, arXiv preprint, arXiv:1702.04537, to appear in proceedings: The 19th International Conference on Human-Computer Interaction (2017).
3. Aslak Wegner Eide et al., “Human-Machine Networks: Towards a Typology and Profiling Framework”, In Proceedings of the 18th International Conference on Human-Computer Interaction, Lecture Notes in Computer Science, Vol. 9731, pp 11-22, arXiv preprint: arXiv:1602.07199, 2016.
4. Vegard Engen, J. Brian Pickering, and Paul Walland, “Machine Agency in Human-Machine Networks; Impacts and Trust Implications”, arXiv preprint arXiv:1602.08237, in proceedings: The 18th International Conference on Human-Computer Interaction, 2016.

2.2.1.4 List of submitted conference papers under review

1. Haugstveit, I.M. & Skjuve, M. (2018). Supporting Collaboration in Crisis Management: A Human-Machine Network Approach, under review
2. Walland, P. & Pickering, B. (2017). Mediated behavioural change in human-machine networks: exploring network characteristics, trust and motivation, under review

2.2.2 Industry/public conference talks/presentations

One of our main strategies to maximize the impact of the project was to continuously present the results in different events. Here is a list of examples of such presentations. The list does not include the presentations that we gave at the HUMANE workshop.

1. Petter Bae Brandtzaeg, M. D. Chaparro, and A. Følstad. "Context collapse of news". Presentation accepted for AoIR 2017: The 18th annual meeting of the Association of Internet Researchers, Tartu, Estonia, October, 2017. (collaboration between the HUMANE and REVEAL projects)
2. Asbjørn Følstad, “Fra en intervjustudie om delingsøkonomi og menneske-maskin nettverk” (From an interview study on the sharing economy and human-machine networks), SoCentral, Oslo, Norway, April 2017.
3. Taha Yasseri, “Humans and Machines fighting on Wikipedia” London Computational Social Science Initiative, University College London, 2017.
4. Milena Tsvetkova, “Even good bots fight”, GESIS Winter Symposium on Computational Social Science, Cologne, Germany, Dec 2016.
5. Marika Lüders, “Snap! Selg! Kjøp! Innovasjon, redistribusjonstjenester og forbruker erfaringer”, Konferanse om forbrukeren i delingsøkonomien, Oslo, Norway, Feb 2016.
6. Milena Tsvetkova, Ruth Garcia-Gavilanes and Taha Yasseri, “The dynamics of disagreement: A large-scale analysis of the Wikipedia revert network”, 2nd GESIS Computational Social Science Winter Symposium, Cologne, Germany, Dec 2015.
7. Taha Yasseri, “What Does the Internet Tell Us about Human Behaviour?” Department of Experimental Psychology, University of Oxford, Oxford, UK, Nov 2015.

2.2.3 Research Data

HUMANE, as a research and innovation action under ICT 31, participates in the Open Research Data pilot. Hence, the project was required to make access to research data generated in the project as open as possible. In the report, Open Research Data Pilot (D5.7), we have provided a detailed overview of the gathering and processing of data in HUMANE.

For publishing the HUMANE datasets we have, as laid out in the data management plan (DMP; HUMANE deliverable 5.3) used Zenodo as the project data repository. For one of the datasets, however, we have used Figshare for data sharing instead of Zenodo, in consequence of this dataset being published as part of the requirements for publishing a study drawing on these data in PLOS ONE. Also, due to considerations regarding informed consent and confidentiality data from some of the studies have been opted out for open publication.

In total 14 datasets have been gathered and processed during the HUMANE project. Of these the majority (nine) are openly published. However, for five of the datasets considerations regarding confidentiality and challenges pertaining to informed consent made it necessary to opt out of such open publication of data.

2.2.4 Dissemination Leaflet

We designed and produced the HUMANE leaflet for physical dissemination (see Figure 1). Version one of the leaflet was used in the HUMANE workshop and the version two is printed and will be distributed at different events over the next few months.

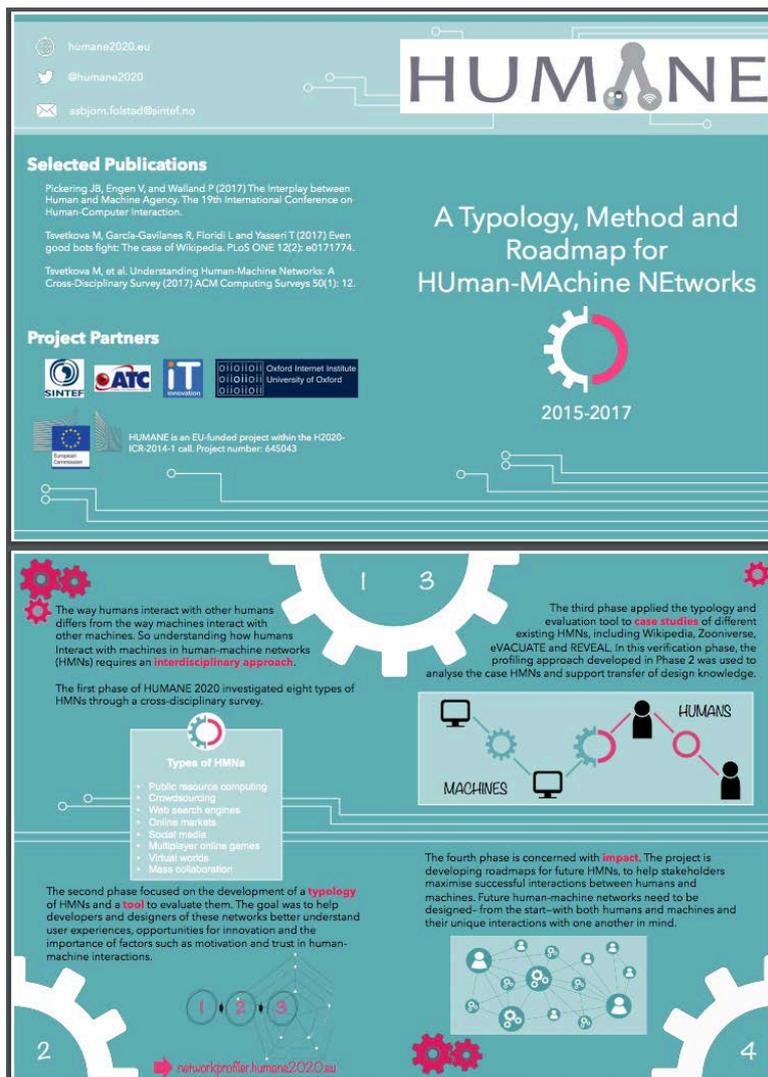


Figure 1 The HUMANE Leaflet: V02.

2.2.5 HUMANE Video clip

We produced two versions of the HUMANE video clip which summarizes different aspects of the project through monologues by the project members. The two versions have different lengths and will be hosted on the website (long version) and used in presentation (short version). Both versions will be spread through the HUMANE social media channels.

2.2.6 Clustering

HUMANE has benefited from Clustering meetings as well. We have identified synergetic projects with similar interest (SOCIAM: <http://www.sociam.org/about>), whom we have invited to the workshop and had inspiring conversations with.

2.2.7 Project Website and Social Media

The project website <http://humane2020.eu/> is a key instrument for enhancing visibility of the project and has links to all relevant communities and interest groups (see Figure 1). All project findings are published on the website to allow anyone interested in the subject to follow the progress of the project. Active website optimizes HUMANE on search engines.

We also created an online data repository at Zenodo (<https://zenodo.org/communities/humane2020/>) allowing the users to access and download the data that we have generated within the project. This has been implemented following our data management protocols.

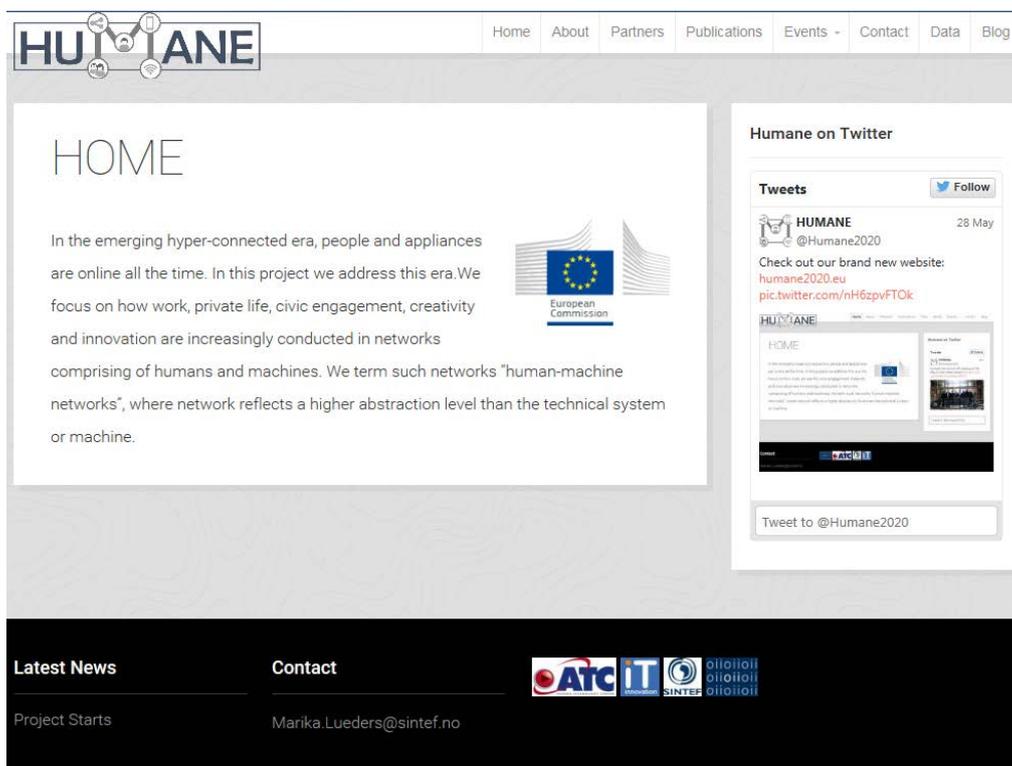


Figure 2: A Screenshot of the initial design of the humane2020.eu website.

Whereas the initial design of the website was more finding centric, during the second phase of the project the emphasise will be on tools. The redesign of the website considers attention attractors on the front-page which directly engages the visitors with the HUMANE typology and tools (see Figure 2). The new design will engage the visitors with the front page and guides the flow to the findings and other parts of the site from there.

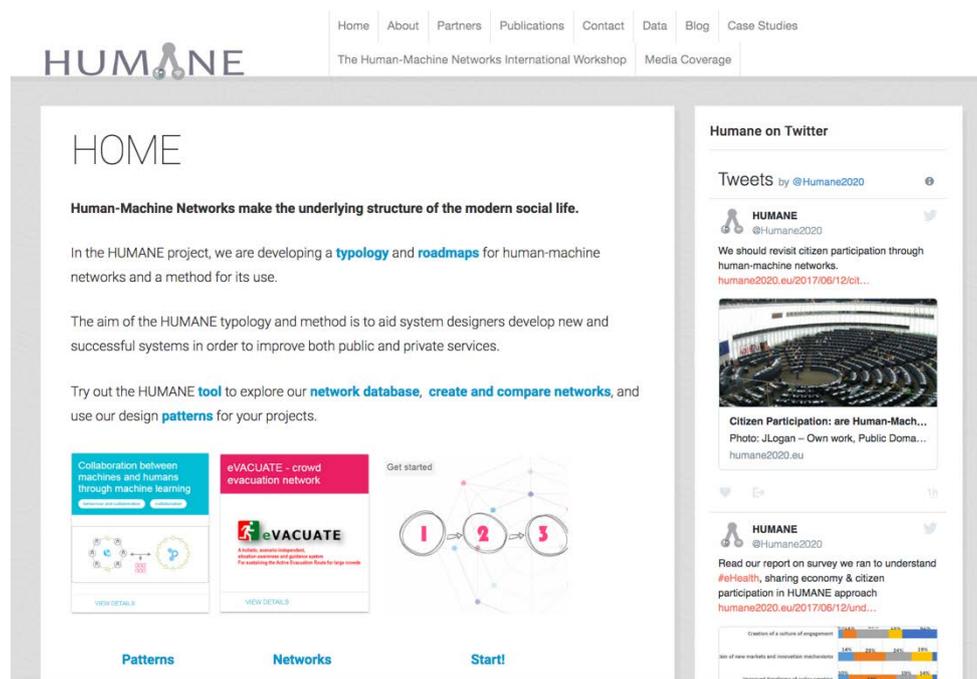


Figure 3 A Screenshot of an example of the HUMANE typology tool to be added to the front-page of the website.

Social media are fast, low cost channels of reaching interest groups and communities that are normally not present at any events.

- Online presence: website where relevant stakeholders and the general public can read about the project progress and findings (<http://humane2020.eu/>). The website was launched in M2, and was revised and improved during the project, particularly with regard to communicating the most important points of HUMANE in the second year.
- There are links created on the website to online repository where anyone to download project data, findings, and public deliverables.
- Twitter account, for sharing project news and reach a wide range of communities (@humane2020) has been set up and used to disseminate the findings and events.
- We made use of existing consortium social networking contacts (Twitter, LinkedIn) to reach out to a wide range of communities.

2.2.8 Weblog

In addition to the static parts of the website which includes interactive and non-interactive sections, we used the project weblog as a dynamic tool which allows us to report on our progress in an informal language to target the wider audience. We used a non-technical and accessible language in the weblog however, we linked to the formal publications and deliverables of the project from within the weblog posts.

All together we had 20+ posts that are available here: <https://humane2020.eu/blog/>

2.2.9 Mendeley Group

We have launched a literature sharing group on Mendeley (Figure 3), through which we disseminate the identified and reviewed related literature. This is an open group allowing other scientists and the members of the public to interact with the literature that is identified and tagged by the HUMANE members. <https://www.mendeley.com/groups/7032371/humane/>

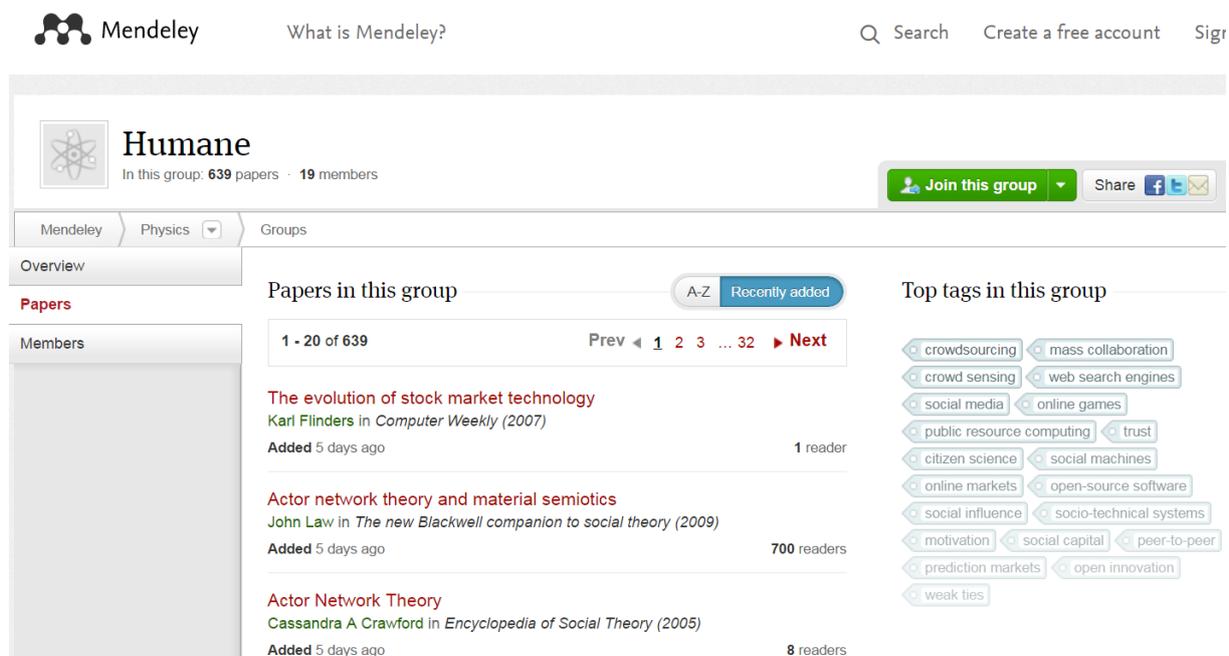


Figure 4 A Screenshot of the HUMANE Mendeley group

Project collateral distributed at various events, conferences, workshops, etc., gain the project visibility with the general public and the national and European media.

- Design collateral includes designing a common branding strategy including project logo (see Figure 4).
- Create leaflets, posters banners, brochures to be given away at events.



Figure 5 The HUMANE logo

2.2.10 Press Releases and media coverage

Press releases whilst a general tactic can also target specific stakeholders depending on the journal/website where press release is published. The emphasis of the press release was on our publications and that requires careful coordination with the publishers and the partners press offices. A sample of our releases and media coverages are here:

[Taxonomy Goes Digital: Getting a Handle on Social Bots](#)

IEEE Spectrum-9 Jun 2017

[Computer bots are more like humans than you might think](#)

Science Daily-23 Feb 2017

[Was Bot-Kämpfe auf Wikipedia mit selbstfahrenden Autos zu tun](#)

WIRED-1 Mar 2017

[Computer bots are like humans, having fights lasting years](#)

University of Oxford Press Office-24 Feb 2017

Taha Yasseri also appeared on 4th April 2017 on the BBC Newsnight to report on one of the papers.

2.2.11 Humane Workshop

On 21st of March, we held the HUMANE Intentional Workshop in Oxford. We had some 60+ participants from across different sectors; academia, industry, and public sectors, as well as technicians and freelancers. The workshop, fitting the cross-disciplinary character of HUMANE, was characterized by a wide range of topics, speakers, and attendees.

The workshop started out with a keynote by David De Roure from the Oxford e-Research Centre. David spoke about Social Machines and How to Study them; addressing the unanticipated and unpredictable outcomes of large assemblies of humans and machines. We then continued with a presentation by Asbjørn Følstad, the HUMANE project co-ordinator from SINTEF, explaining the HUMANE typology and method. After that, Eric Meyer from the Oxford Internet Institute reviewed the existing literature on Human-Machine networks, based on the HUMANE literature review. We closed the morning session with a talk by Vegard Engen of the IT Innovation Centre on Agency in Human-Machine Networks, addressing trust in terms of the HUMANE typology dimensions of human and machine agency.

The afternoon session was kicked off with a talk by Eva Jaho from ATC Innovation Lab, on the HUMANE roadmaps and how they help us to think about the future of human-machine networks. Then we had Grant Miller from Zooniverse to talk about Zooniverse in a talk titled Humans, Machines, and Penguins. Finally, just before the coffee break, Taha Yasseri presented the HUMANE case work on the edit wars between humans and between bots on Wikipedia. The end of the day included a talk by Brian Pickering, IT Innovation Centre, on decision support for crowd management drawn from the eVACUATE project, detailing how the HUMANE typology and method help us to

understand and design better crowd management systems. The final keynote was Gina Neff, Oxford Internet Institute, on self-tracking data as the result of human and machine relationship. She discussed the status of such co-produced data. The workshop was summarized by Paul Walland, IT Innovation.

2.3 Dissemination tactics summary

In order to generate high levels of impact, HUMANE will supplement its general dissemination activities with more targeted engagement of specific communities as shown in Table 2.

Table 2 Summary of activities.

Audience Type	General Dissemination	Targeted Dissemination
The ICT Industry	Project Website Project Newsletters Project Leaflet/Flyer Twitter Press Releases	Users' survey results HUMANE Workshop EU Project Links (through the case studies and Clustering activities) Weblog
Public bodies and decision-makers		Users' survey results HUMANE Workshop and other conferences EU Project Links
The scientific community		Publications HUMANE Workshop and other conferences Personal outreach and clustering EU Project Links Mendeley Group Specialised Social Media

3 Activity Schedule

The planning for the dissemination of the project started off at a fairly high level in year 1 and was continuously refined and updated during year 2 as new opportunities for dissemination arose. For ease of delivery, the activities were broken down into three phases:

1. Design and elaboration of HUMANE vision
2. Stakeholder engagement and roadmap definition
3. Sustainability and wider dissemination

Our overall activity timeline is presented in the following table (Table 3).

Table 3: Plan for key activities

Phase	Goals	Planned Activities	Expected Results & Outputs	Dates
Phase 1: Design & Elaboration of HUMANE visions	<ul style="list-style-type: none"> • Build the HUMANE brand name • Produce key dissemination material 	<ul style="list-style-type: none"> • Produce key dissemination material • Build the HUMANE website 	<ul style="list-style-type: none"> • Logo Production • Creation of the Website • Establishment of Social networks presence • Project Presentations at international conferences • Scientific publications • Stakeholder Map and Dissemination Plan • Projects liaisons • Collaboration with related communities focused on HMNs 	M1-M10
Phase 2: Stakeholders Engagement & Roadmap Definition	<p>Start engaging stakeholders;</p> <p>Leverage participation of different experts & users;</p> <p>Reaching out to the wider</p>	<ul style="list-style-type: none"> • Website updated • Start engaging stakeholders from the initial phases of the project (experts, practitioners, decision-makers etc.) • Ensure active stakeholders feedback 	<ul style="list-style-type: none"> • Updated website • Production of Users' survey • HUMANE roadmap • Production of press releases at National & EU level 	M7- M20

Phase	Goals	Planned Activities	Expected Results & Outputs	Dates
	community of non-experts	<ul style="list-style-type: none"> Support liaison activities with other ICT for HMNs 		
Phase 3: Sustainability and Wide Dissemination	Disseminate Final HUMANE Results	<ul style="list-style-type: none"> Production of several Press Releases Production of related articles and presentations Scientific publications for international conferences and journals Organisation of HUMANE Workshop 	<ul style="list-style-type: none"> HUMANE Workshop and related report Dissemination report (D5.4) Public project report Updated dissemination Material 	M20-M26

4 Key Performance Indicators

In order to assure a high impact dissemination and communication strategy, we have identified the following Key Performance Indicators (KPIs). We kept monitoring the KPIs as the project continued and made sure that they fulfil the anticipated levels. The monitoring was planned based on bi-monthly periods in order to ensure the goal achievement at the end of the project.

4.1 Website views:

The current level of website traffic has stabilized around 350 views by 150 unique visitors per months (see Figure 5). Our target was at least 300 views by 100 unique visitors per month, which have been reached. We kept continuously monitor the website statistics and make sure that a steady engagement with the website is in place.



Figure 6: The monthly number of views and unique visitors to the HUMANE website

4.2 Twitter:

The current HUMANE Twitter account has about 120 followers and 7 retweets per tweets on average. Our goal was to achieve at least 100 followers within the second phase of the project and onwards through the increase in our social media activity in year 2.

4.3 HUMANE Workshop:

One important KPI is the number of applicant and participants to the HUMANE workshop. We made sure that the workshop was advertised adequately to the identified audience (see above) and that the participation and engagement was maximized. We aimed at having around 50-70 participants with adequate distribution among different groups of the targeted audience. The workshop ended up with 60+ participants from all sectors.

4.4 Overall Evaluation

Moreover, for each dissemination activity an indicative list of evaluation criteria is presented in the following table presenting a list of target values for quantitative indicators based on which the dissemination impact of the project will be evaluated (Table 4).

Table 4: Evaluation of the HUMANE dissemination quantitative aspects

Raise awareness and dissemination indicator target values		
	Planned	Achieved
No. of Twitter followers	100+	120
No. of actual users and experts involved	100+	385
No. of participants in HUMANE workshops	50+	60+
No. of participants in stakeholders' needs survey	50+	75
No. of detailed Case Studies	10+	6 in the first iteration and 5 in the second (200+ cases profiled)
Raise awareness and dissemination indicators		
No. of presentations in external events	10+	10+
No. of papers submitted for publication	5+	14
No. of blog posts published	20+	23
No. of downloads of workshop report (posted on the website)	50+	67

Even though we have focused on the quantitative KPI's here, but one should keep in mind that we also consider qualitative aspects of our communication activities and thought them through carefully. The qualitative aspects of dissemination were closely related to the main project objectives that were to be attained (with regard to the policy-makers & practitioners community, the present and future users of research results) and how these dissemination activities have been successful in supporting them. Our approach particularly contained an account of:

- What was produced and presented from the point of dissemination
- How, when and where was it presented and distributed
- To whom were the results disseminated
- Who did participate

5 Conclusions

This deliverable outlines the main activities in the dissemination and exploitation work package. An overview of the targeted audiences and the related dissemination means that are being used in order to disseminate the project's results was presented.

HUMANE was a two-year long project, which means it was very important to speed up the awareness-raising and engagement activities, both online and offline right from the beginning. The HUMANE communication plan has been established, and with ongoing project-work and future results, reporting on activities, both online and offline, becomes relevant and necessary.

The candidate dissemination actions have been continuously monitored and accordingly updated, so this deliverable provided an overview of what is known and planned at the timing of the document preparation.

All together, we are confident that we communicated the processes and the final outcomes very openly and transparently through-out the project. We used multiple channels to report on the project at every step and we had a workshop to sum-up the main findings and discuss them with the audience in a dialogue.

Oy case studies allowed us to be in direct communication with practitioners (developers, designers, users) and through the survey, we learnt a great deal about preferences and priorities of the end-users.

The online tools that we provided make the project sustainable and allows long-lasting exploitation beyond the project period.

We have successfully published our results in scientific venues (both journals and conferences) and created huge media awareness on aspects of the project through our press releases.

Finally, the HUMANE video clip will allow the interested parties to interact with the project beyond its lifetime and exploit the results in different scenarios.

6 References

Lüders, M., Engen, V., Pickering, B., Bravos, G., & Yasseri, T. (2015). *D5.3 Data management plan*.