PRISMA Project

Stakeholder Dialogue

Envisioning the future of transformative technologies

Case studies on automated vehicles
and Internet of Things

07 February 2018

For more information:
Maria Maia (ITAS-KIT)
maria.maia@kit.edu

ADDRESS
West Midlands Centre
Avenue d'Auderghem 22-28
Oudergemlaan, B-1040 Brussels

TUDelft ITAS Airi · nanotec IT WARWICK

PRISMΔ

Dear Participant of the Stakeholder Dialogue event,

As organizer of this Stakeholder Dialogue, The Institute for Technology Assessment and Systems Analysis (ITAS)/ Karlsruhe Institute of Technology (KIT), would like to welcome you and thank you for your participation in the event!

Responsible Research and Innovation (RRI) could support industry dealing with transformative technologies, such as automated vehicles or Internet of Things, to better address ethical and societal aspects of their products.

We would like to invite you to reflect on the following questions:

How to develop responsible innovations that take in to account societal needs and could find broad consensus within society?
Which activities can be undertaken for the integration of RRI along the whole R&I value chain? How to involve stakeholders?
What are the possible economic consequences for industry in terms of RRI adoption (or non-adoption)?

These are some of the questions that will be addressed in the stakeholder dialogue event, considering the work being develop with the pilot companies involved in the project.
Goal of the event is to bring together companies, researchers, policy makers and government bodies and societal organisations to discuss how these aspects can be taken into consideration during the research and innovation process.
The dialogue will focus on two of the key technological areas explored within the PRISMA project: automated vehicles and Internet of Things

Hope you enjoy the event.

Maria Maia and Christopher Coenen

www.rri-prisma.eu

PRISMA

AGENDA

09:00 – 09:30   Arrival, registration and coffee

9:30 – 09:45   **Introductory remarks: The PRISMA project**

- Prisma partners

9:45 – 10:45   **Case studies from the Prisma pilots**

- Susan Wakenshaw - Hub of All Things
- Laurens Metternich - Spectro EV
- Simon Brewerton - Intact /RDM Group
- Timothy van Langeveld - Aerialtronics

10:45 – 11:15   Coffee break

11:15 – 12:15   **Experts perspectives**

- Elisabeth Frankus - Senior Researcher, Techno-Science & Societal Transformation; Institute for Advanced Studies in Austria
- Martin de Heaver - Director of ORBIT - The Observatory for Responsible Research and Innovation in ICT
- Paolo Masoni - President at Ecoinnovazione srl - spin off ENEA
- Lorenza Bizzarri - Product and Program Manager at STMicroelectronics, Automotive and Discrete Group, Automotive Digital Division.

12:15 – 13:15   Lunch break

13:15 – 14:45   **Discussion session (World Café format)**

14:45 – 15:00   Coffee break

15:00– 15:20   **Plenary: Results from the World Café**

15:20 – 16:30   **Plenary discussion: Moving forward – RRI principles and the PRISMA Roadmap**

16:30   **Closing remarks. Farewell**

PRISM△

THE PROJECT PILOTS

AERIALTRONICS
COMMERCIAL UNMANNED AIRCRAFT SYSTEMS

Aerialtronics is an end-to-end solution developer that utilizes drones, artificial intelligence and IoT data to provide businesses with augmented and actionable insights that create a perfect synergy between aerial applications and everyday business operations. They develop Unmanned Aircraft Systems (UASs) for civilian commercial applications. These drone applications are disruptive technologies today as they offer a wide range of services to many professionals.

Aerialtronics is a small company, only 35 employees, but has a major challenge to develop systems that could meet the requirements of a variety of industries without spreading its resources too thin between dozens of discrete designs. At the same time, Aerialtronics develops drones to be used by professionals. These professionals may encounter resistance by law or by local communities when providing their service through the use of drones. Early inclusion of the stakeholder environment in the design of drone platforms for various professional user groups may speed up the R&D activities and eventual market launch and implementation of the new drone application.

Before, Aerialtronics experienced setbacks in their drone development due to new insights they gained among stakeholders when they were testing their drone platforms. These insights led to re-design some specific elements of the drone, thereby increasing development cost, time to market and the eventual cost price of the drone. Being a small company, Aerialtronics has little slack to dedicate time sand resources to conducting extensive explorative studies on the repercussions of drone development. Despite their small resources base, Aerialtronics has appointed a legal officer to connect to different authorizes and liaise with them to better the implementation of new drone designs.

About the pilot

The pilot focuses on reviewing the implementation of a technology for sensing the direct environment of a drone and prevent it from colliding into other objects. The sensors give feedback to the drone operator and is a first step to make the drone more autonomous and interact it with regards to its environment.

The technology is called the Sense and Avoid system is a modular functionality for the Altura Zenith Unmanned Aircraft System. This innovative sense and avoid solution improves safety during the inspection of telecommunication towers, utility poles and oil rigs, particularly in windy conditions. The onboard ultrasonic technology helps the pilot to keep a safe distance from obstacles and increases the safety of their inspection. The sense and avoid solution comes as four plug-and-play sensor extensions which are simple to install.

The system is a precise measurement system that was developed in 2016 and is currently sold to clients. The first generation of the system informs the pilot about the location and distance and can

intervene when the drone comes to close to certain objects. This semi-autonomous interaction is relevant, especially under windy conditions when a pilot needs more skills to operate a drone. The future generations will have higher levels of intervention and should allow the drone to take its own decisions regarding the tasks it needs to perform.

These new generations are currently being tested and simultaneously, Aaerialtronics is discussing with legal officers to see how it may help the implementation of autonomous drones in the future.

Objective of the pilot

As for the goal of the pilot project, Aerialtronics would like to develop a framework that can help the advancement of new technologies by identifying how and to what extent include various users and professionals in the technology development process in order to lower environmental impact and prevent the innovation process from possible delays. Having such a framework will help the monitoring of the role of various stakeholder groups during the stages of innovation and eventually should lead to lowering development costs and lower environmental impact. More specific the project aims to better understand the role of stakeholder organizations in the development of the Sense and Avoid system for drones. To some extent the implementation of the new technology may require changes in existing regulation with regards to flight control of drones. With this pilot project, we hope for stakeholders, particularly those currently against the sue of autonomous drones, to be able to understand and give feedback. We will focus on users and stakeholders such as local communities and regional authorities. To develop a framework for inclusion of stakeholders in the development of new drone technology.

Website: https://www.aerialtronics.com/en

The **Hub of All Things (HAT)**, is the first-ever personal data exchange ecosystem that enables individuals and HAT-enabled organisations to exchange data with privacy and security by implementing global operating standards for personal data exchange so that the Internet economy can thrive for the betterment of society.

While there are many personal data lockers and repositories, the HAT has a schema that 'flattens' and 'liberates' vertical structures of data so that new mashups and new ways of putting together data for new services could be created to serve individual lives.

Individuals can acquire their own data from internet-connected objects or services, and this acquired data is then transformed by the HAT to enable individuals to contextualise their own data, making it meaningful and useful for decision-making. With that data, individuals can buy apps that allow them to analyse, view, trade or make important decisions based on their own data for a smarter and more effective life.

The HAT is therefore a personal data platform for firms to offer individuals services for their data in a scalable way yet allowing individuals to personalise the data to their own needs for better decisions in their lives. Most importantly, the HAT and its transformed data is owned by the individual.

The HAT is analogous to the 'email' model. If you have an email account for your emails, you should have a HAT for your data. You can obtain a HAT from a HAT Platform Provider (HPP) who can choose to offer individuals a HAT with other services, much like the way we can choose between email providers today.

For firms, the HAT opens up opportunities for exchanges and use of personal data in a way that is privacy preserving. Firms can (1) build smart devices that individuals can control and acquire the data on the device onto their HAT; (2) build smart applications for individuals to make use of their data; or (3) help individuals exchange their data for better buying decisions.

Website: http://hubofallthings.com/

PRISMA

RDM GROUP

RDM group leads the way in the production of autonomous vehicles within the L-SATS (Low-Speed Autonomous Transport System) sector. Specialist designers, engineers and electronic experts are currently working on delivering the UK's first driverless vehicles that can be used on public pavements, streets and on private land. This will enable future driving to be free from fuel, emissions, accidents and opens up new transport opportunities for local authorities plagued by congestion issues. These striking pods can also be customised to house more passengers and suit other applications, including: Airports, Eco towns & villages, Golf courses, Heritage sites, Holiday parks, Shopping centres, Smart cities and University campuses.

RDM works with project partners, from initial design and prototyping, through to testing and assembly. Its advanced Engineering Centre in Coventry is also capable of small to medium volume production.

Website: www.rdmgroup.co.uk

INTACT - The Drive-in, Driver-in-the-loop, multi-axis driving simulator (3xD), simulator in WMG that will be used in INTACT, developed following an award of £3.2 million by The Engineering and Physical Sciences Research Council (EPSRC). Currently situated in the International Manufacturing Centre, it will permanently move to the National Automotive Innovation Centre (NAIC) in 2017. It will be the world's first immersive, simulated environment for smart and connected vehicles which includes full emulation of wireless communications – the simulator will be a centrepiece as part of NAIC's Virtual Reality centre. It will provide a unique platform for innovation and technology creation. The simulator will be a key facility for researchers working on autonomous, smart and connected vehicles.

Pods require trust from users – they must be safe, secure and robust. This requires extensive testing and validation. However, testing on public roads and in real-world driving situations would be very expensive, unrepeatable and potentially dangerous. The INTACT project will use a novel simulator concept to enable the evaluation of the Pod in a safe, repeatable and scientifically rigorous environment. RDM, the UK's only designer and manufacturer of driverless Pods, and University of Warwick will work together to enable the broader uptake of Pods, help inform the legislative framework for the UK and eventual certification of autonomous vehicles and show the UK as a leader of research into autonomous vehicles.

Website: https://www2.warwick.ac.uk/newsandevents/pressreleases/wmg_tests_driverless/

PRISMA

SPECTRO

Spectro is Dutch manufacturer of cleaning agents for professional use. They create private label products and develop innovative cleaning concepts such as Ecodos. At their factory in Oss, The Netherlands they take care of the whole process: from product development and production to filling and labeling. Quality, CSR and expertise are unique selling points. Spectro is a family-owned company with about 50 employees and an R&D department that employs 4 people. Sustainability is central to Spectro's corporate strategy. Increasing economic success and sustainability go hand in hand in their business model. They see themselves as a pioneer in the area of sustainability and they take responsibility towards their staff, society and the environment very seriously. At Spectro, CSR extends much further than simply to company level and finished products. They also help their customers to achieve their CSR targets.

One of the innovative products that Spectro has developed is Ecodos. Ecodos are highly concentrated ecological cleaning agents combined with efficient dosage equipment. This equipment always provides the correct dosage. This avoids overdosing and reduces costs for the customer. Ecodos dispensers do not need water or electric supply and are supplied to the customers on loan. Ecodos currently has a product line for the kitchen and for the interior. Both product lines provide at least 95% of the daily cleaning requirements. Ecodos uses icons and colour codes to make it easy and safe to use by any user. Training in sustainable, safe and healthy work is an important aspect of Ecodos. Most Ecodos products are certified with the European Ecolabel. The products are packed in bags, so it can be used until the last drop, so thereby there is very little residue waste.

The pilot at Spectro will focus on a new version of Ecodos that Spectro is currently developing and which can exchange information about the use of the system, via Internet, with Spectro. In this way, Spectro can improve its service and the maintenance of the system. In the future, it might also update the Ecodos system through the internet. Collecting data about the cleaning behaviour of clients may in the long run not only help to improve service but also contribute to further product innovations that contribute to service, quality and sustainability. Exchanging information through Internet also means that security and privacy issues need to be adequately addressed. This will be a central issue in the PRISMA pilot. In addition, important questions for Spectro are whether the market is ready for this development and whether clients are willing to accept this innovation.

Website: http://www.spectro.nl

PRISMA

PRESENTERS' SHORT BIOGRAPHY

Elisabeth Frankus

Elisabeth Frankus holds a PhD in Sociology and a Magister (rer. soc. oec) in Sociology and Educational Sciences, is qualified Prince2 practitioner and has further education in business studies, coaching and training. Since 2008 she has been gaining experience with European projects as project coordinator, evaluator and as content developer in the fields of health, education, economic, public security, autonomous mobility and Responsible Research and Innovation (RRI). Her scientific approach leads to diverse publications and presentation. Since April 2015 Elisabeth Frankus has been working as senior researcher at the Institute for Advanced Studies (IHS) in the research group "Techno-Science & Societal Transformation" focusing on the topics of RRI, autonomous mobility and refugee studies. She is teaching at the University of Vienna as well as at the Vienna University of Economics and Business quantitative and qualitative research methods.

Martin de Heaver

Martin de Heaver is Director of ORBIT, the Observatory for Responsible Research and Innovation, an independent body funded by the Engineering and Physical Sciences Research council in the UK and run by the Universities of Oxford and De Montfort. Martin is an engineer and entrepreneur. He has worked on EU FP4/5/7 funded research projects in aviation and telecommunications. Martin is a former Senior Research Fellow at King's College London, and an entrepreneur mentor at London Business School.

PRISMA

Paolo Masoni

Paolo Masoni is, since 2017, the President of Ecoinnovazione, a spin off ENEA. Before he was working in ENEA, as Research Director, coordinating several large international research projects. At the time, Paolo was also the Italian representative in the technical Advisory Board of the PEF at the European Commission, the Italian representative in the Steering Committee of the Global Network of Interoperable LCA databases and also member of the Italian Committee for Green Public Procurement. Paolo is an expert in the FAO LEAP Partnership.

Lorenza Bizzarri

Lorenza Bizzarri is currently the Product and Program Manager at STMicroelectronics, Automotive and Discrete Group, Automotive Digital Division (defining and managing the execution of new products introduction through: overall plan definition, budget calculation, development and qualification management). Since 1997 she is employed in the Automotive Group of STMicroelectronics, were she had previously the following functions: Microcontroller Product Marketing Manager (responsible for marketing and business development of Microcontroller for Power Train applications), Digital Products Strategic Marketing Manager (responsible for marketing of new segment, the Advanced Driver Assistance System (ADAS)) and Marketing Responsible (for managing and developing the Speech Technology (Speech Recognition, Text To Speech, Echo Cancelling, Noise Suppression)). Lorenza has a degree in Engineering Physics/Applied Physics from "Università degli Studi di Roma La Sapienza" with experimental thesis work entitled "Sound Synthesis by Physical Model: the case of Clarinet", developed at the IRIS research center.

PRISMA

PARTICIPANT LIST

Name	Affiliation
José Barata	Professor at the Faculty of Sciences and Technology (FCT) of the New University of Lisbon (UNL). Coordinator of RICS - Robotics and Industrial Complex Systems research group.
Arnd Bätzner	Board of Directors at Mobility - Expert advisor for national and international mobility markets
Martina Baumann	Researcher at the Karlsruhe Institute of Technology
Bjorn Bedsted	Deputy Director and Head of DBT International at The Danish Board of Technology
Lise Bitsch	Senior Project Manager at The Danish Board of Technology Foundation - Coordinator of GoNano Project
Lorenza Bizzarri	Product and Program Manager at STMicroelectronics, Business Unit on Smart Drive
Elisabetta Borsella	Senior Analyst, Italian Association for Industrial Research (AIRI)
Simon Brewerton	Chief Technology Officer at RDM Group
Bruno Chenard	Project Manager - Innovation at CEN and CENELEC
Christopher Coenen	Researcher at the Institute for Technology Assessment and Systems Analysis (ITAS)
Renita Danarianti	Researcher at TU Delft
Martin de Heaver	Director of ORBIT- The Observatory for Responsible Research and Innovation in ICT
Gunwant Dhadyalla	Principal Engineer at The University of Warwick
Marc Dreyer	FUTOPEDIA - Task force member for EIRMA - European Industrial Research Management Association
Elisabeth Frankus	Senior Researcher, Techno-Science & Societal Transformation; Institute for Advanced Studies in Austria

PRISMA

Name	Affiliation
John Guelke	Research Fellow at the University of Warwick
Maria João Maia	Researcher at the Institute for Technology Assessment and Systems Analysis (ITAS)
Laurens Metternich	CEO at Spectro EV
Paolo Masoni	President at Ecoinnovazione srl - spin off ENEA
Silke Merkel-Zimmer	Researcher at the Institute of Technology Futures
Andrea Porcari	Project Manager at AIRI - Associazione Italiana per la Ricerca Industriale
Antonio Remartinez	Independent Strategic Consultant in Health and Social Care sectors
Victor Scholten	Director of Delft Centre for Entrepreneurship at TU Delft
Angela Simone	EU H2020 SMART-map project Deputy Coordinator. Journalist, project designer at Formicablu srl - Fondazione G. Bassetti
Tom Sorell	Head of the Interdisciplinary Ethics Research Group at Warwick University
Anne van den Berg	Researcher at TU Delft
Timothy van Langeveld	Aerospace Legal Counsel at Aerialtronics
Ibo van de Poel	Head of Department Values, Technology, and Innovation (VTI) and Professor in Ethics and Technology at TU Delft
Susan Wakenshaw	Research Fellow at Warwick Manufacturing Group (Hub of All Things (HAT))
Emad Yaghmaei	Research Fellow in Ethics and Technology at TU Delft
Susanne Zänker	Director General at A.I.S.E. - The International Association for Soaps, Detergents and Maintenance Products

PRISMA

PRACTICAL INFORMATION

Venue:

Greater Birmingham and the West Midlands Brussels Office
Avenue D'Auderghem 22-28 Oudergemselaan
Brussels 1040, Belgium

Situated just off Schuman Roundabout, you are only 1 minute from metro lines 1&5, a train station connecting you to the national and international rail routes. It takes approximately 20 minutes to/from Brussels Airport.

Directions to Venue:

By Eurostar

After arriving at Gare du Midi follow the white M signs to the Metro. Take lines 2 o 6 towards Simonis (Elisabeth) to Art-Loi station. Change to lines 1 or 5 towards Stockel or Hermann-Debroux, alighting at Schuman.

By Metro

The nearest metro station is Schuman on lines 1 and 5. The conference centre is only 2-minute walk to/from the station.

From Brussels Airport By bus

Follow the bus signs and catch the 12 or 21 bus to Schuman.

By train
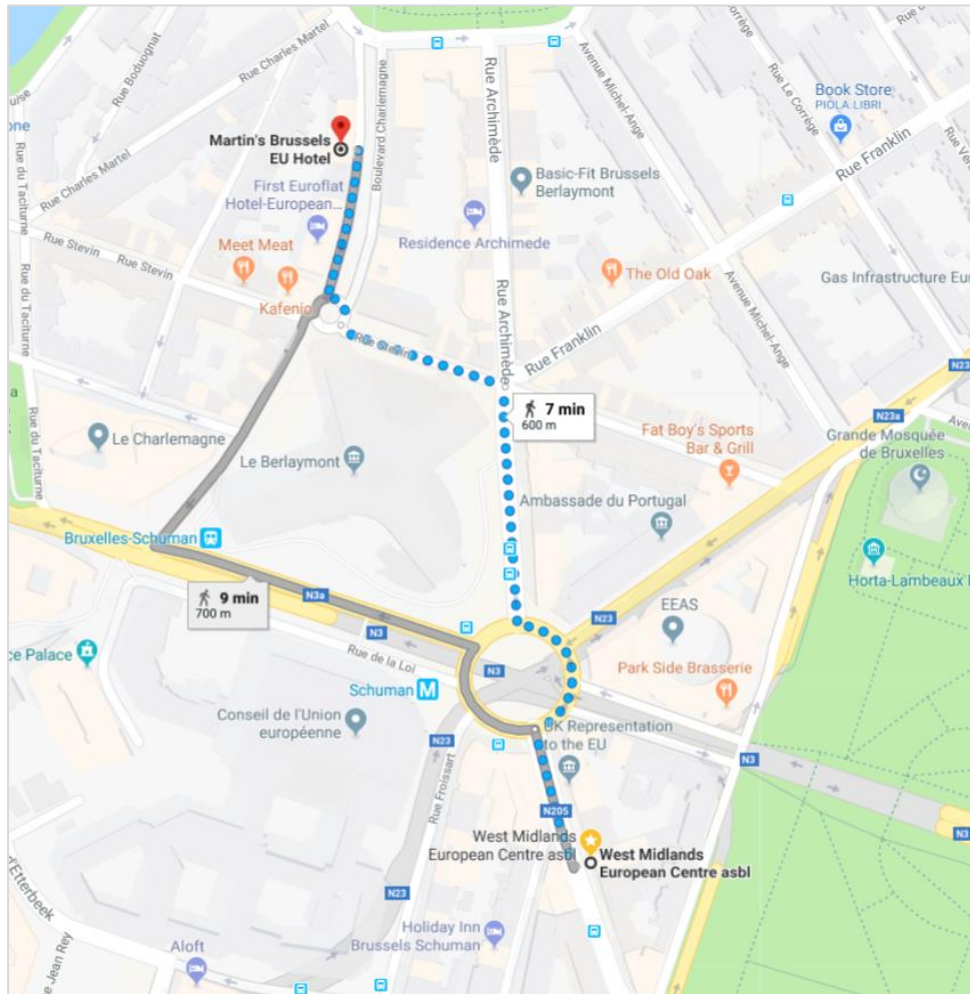You can now catch a direct train from the airport to Schuman.

PRISM△

Hotel:

MARTIN'S BRUSSELS EU
BERLAYMONT · BELGIUM
★★★★

Martin's Brussels EU
Boulevard Charlemagne 80
1000 Brussels
Belgium

https://www.martinshotels.com/en/hotel/martins-brussels-eu

From the hotel to the venue:

PRISMA

Do you have any questions?

Main contact:

Maria Maia

Karlsruhe Institute of Technology

maria.maia@kit.edu

Office: +49 30 40722249

Mobile: +49 15145912659

+351 968535458