

The Business Case For ONE Meeting Projects in Europe



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EXECUTIVE SUMMARY

As the COVID-19 crisis has shown, people have been able to conduct remote meetings and make progress in an optimal way within a great variety of sectors such as education, government, media, research and business. The ONE Meeting Project has been inspired by this and our goal is to encourage a change in EU collaborations making them smarter, greener and more sustainable in the future.

We are pleased to launch the ONE Business Case as a key tool to assist HEI's and EU project managers with the digital transformation of their work. The timing of the resource is apt. In a recent statement on the new EU Climate Law, President von der Leyen made clear that the EU must take our climate goals into account in ALL future policy. It is our belief, that there must be no exception for transnational projects.

The Erasmus+ programme, which turns 35 next year, is one of the most successful EU initiatives, with a total of over ten million participants. The EU has increased the budget for the new programme 2021-2027. With an almost doubled budget compared to the previous programme, even more people will have the opportunity to participate.

At the same time, the opportunity for virtual and blended mobility opens up. The ONE Business Case includes insights from a rapid evidence assessment to

consider when planning your future project partners. It presents applied use case scenarios of the ONE Meeting methodology from 7 experienced EU and Erasmus+ project partners. Practical in nature, it offers links to tools, exercises and worksheets should you wish to test the environmental benefits of the ONE meeting methodology for yourself.

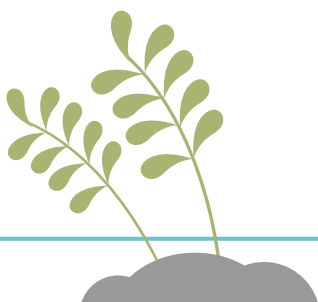
Combined with the two other resources created by the ONE Meeting Project, this Business Case seeks to provide a 360-degree holistic view of productiveness and efficiency of virtual meetings and their ability to reduce the environmental impact of transnational partners meetings.

We hope that you find this guide useful and we hope that like us, you will try to make changes and do what you can to work in a smarter, greener and more sustainable way in the future EU projects and collaborations.

Prof. Dr Eva Cendon,
The ONE Meeting
Project Coordinator,
FernUniversität In
Hagen (FeU)



“**The ONE Meeting Project** seeks to make EU collaborations smarter, greener and more sustainable in the future.”



THE ONE MEETING METHOD OF EU COLLABORATION

The rapid growth of communications technologies, the lowering costs of travel, increasing multilingualism and open borders have enabled greater transnational collaboration across Europe. Nobody has supported collaboration more than the European Union through projects and mobility grants. Yet as the scale of the climate crisis becomes evident and EU and national governments adopt more ambitious environmental goals towards a climate neutral EU by 2050, we can no longer ignore the environmental impact of our European project work.

The objective of the ONE Meeting Project is to strengthen productive virtual collaboration within strategic and structured international projects and reduce travel related environmental impacts. The ONE Meeting Project will support the transitioning of EU collaboration and work to a new model which hinges on meeting face-to-face just once during the lifetime of the project.

Instead of regular face-to-face transnational partner meetings (which were often held 4 times in two years), the ONE meeting methodology favours a more dynamic and digital form of collaboration which is real-time and teamwork oriented.

To date, face-to-face transnational partner meetings have been a key component of EU project collaboration. But the recent epidemic of Covid-19 which cancelled hundreds of events, shows that we need to find alternatives for face-to-face meetings. While acknowledging the benefits of face-to-face meeting (creative interactions, non-verbal communications) the ONE meeting methodology focuses on what the role online collaboration can have in the future of EU collaboration and how it can make our work smart, green and sustainable.

Don't just take our word for it, explore this Business Case in detail to assess the potential of the ONE meeting methodology for your organization and your future European projects.

WHY A BUSINESS CASE?

A good Business Case captures and documents the reasoning for starting a new project or an initiative. It provides a sound foundation for developing a project in a certain way. Typically, a Business Case defines the problem/s and its impact. It then proposes a solution examining and presenting it in detail. The Business Case checks to see that the project/initiative aligns with the organization's strategic plans.

As you explore the Business Case for ONE Meeting Projects, please consider and make note of

1. The environmental issues relating to transnational travel and the significant reduction of CO2 as a result of the trend towards holding more virtual meetings.
2. The importance of introducing more virtual/remote meetings and reducing the environmental impact of transnational partner meetings.
3. How ONE meeting projects could be an ideal blend, making the most of face-to-face but at the same time reducing our dependency on them.
4. The contextual framework for face-to-face and online meetings and the perceived advantages/disadvantages of remote/virtual meetings.
5. The effectiveness and know-how needed to conduct successful remote/virtual meetings in Erasmus+ projects (we explore this further in our All-You-Need-To-Know Guide to Running ONE Meeting Projects).
6. The advances in digital technology and how productive and efficient virtual communications/collaboration can be. (Note: The ONE Project Virtual Toolkit which you can find on our website provides practical guidance on how to integrate meeting, project planning, creativity and collaboration software and tools.)



01

CONSIDERATIONS FOR THE BUSINESS CASE



THE IMPACT OF COVID-19 AND AGE OF SMART WORKING

The rapid spread of the COVID-19 virus throughout Europe has had a substantial impact on higher education, with almost all institutions at some point having closed their doors for face-to-face activities and replacing them with online courses. COVID-19 began an elevated global discussion on the importance of the physical dimension of work which continues today.

Working from home has become the new normal during the pandemic. Tools for online networking keep us connected with colleagues, while tools for hosting online meetings enabled us to continue collaborating and working together. Although the transition towards virtual working was a forced experiment for many, it has produced a number of positive results including the temporary reduction of greenhouse gas emissions, greater potential for improved work-life balance and cost savings.

Remote working may also facilitate entry into the labour market particularly for persons with family commitments (for the most part women) and persons with certain disabilities. These positive aspects, and evidence that remote working can be effective, are likely to mean that remote working arrangements, at least in a hybrid form, are here to stay.

EFFECTIVENESS OF ONLINE MEETINGS

A recent study led by Raby & Madden (2021) has proved that online meetings were more economical, environmentally friendly and inclusive compared with recent real-life meetings. As a matter of fact, their study shows that conducting the event online increased by 300% the participation, and at the same time counted with a wider international representation with 35 countries compared to 15 from other previous meetings. On top of this, the carbon footprint of the meetings was less than 1% of what would have been incurred if the same event had occurred in-person.

This seems to have been a benefit rather than a deciding factor in the switch to online meetings as Arnfalk et al. (2003) in their work, could not link an

interest for virtual meetings with the willingness to reduce the environmental footprint. That said, a majority of employees have expressed a feeling that environmental issues were important. More recent studies indicate that attendees are more and more concerned with their carbon footprint when attending in-person conferences (Raby & Madden, 2021).

The conclusion we extract from this is that awareness campaigns may be key in order to keep building consciousness towards travel related to in-person meetings and its impact on the environment. For this reason, we delve quite deeply into the environmental aspects of the ONE Business Case as you will soon find.



SWITCH TO E-CONFERENCING

Many large meetings and conferences were initially cancelled or postponed in the wake of the pandemic. But soon organizers rapidly adopted the tools we use every day to accommodate large meetings online (Veldhuizen et al., 2020).

An e-conference is, in essence, a fully online event hosted on a platform with different spaces, multiple sessions and area where online discussions can take place. In part, it resembles a webinar, which also consists of an online session with one or more speakers.

There are two important differences, however.

An e-conference consists of multiple online sessions, and at every point possible, actively fosters and encourages interaction among participants and speakers via an online discussion platform where they can connect, discuss and share resources just as they would in a physical event.

An e-conference is not merely a live broadcast of a physical event; rather, it replicates the critical interactions that occur in physical events, both between speakers and participants as well as between participants, during live sessions and between events in the series through an online conference platform.

The online format of e-conference or online sessions counts with several advantages. First, they make the

events more accessible than a physical event for both participants and speakers. Because speakers and audience members do not have to travel to the same physical location, there is more opportunity to attract a good selection of speakers within a short period of time as well as a diverse audience.

As a result, e-conferences lend themselves to responding to urgent issues and can be set up fast in response to emerging threats. In addition, owing to its increased accessibility, e-conferencing ensures that users can quickly gain access to the latest scientific insights and apply them immediately in the field. Veldhuizen et al. cite the ethos of the Sustainable Development Goals: 'to leave no-one behind' as a major reason to invest in and switch to e-conferences. They suggest that e-conferencing facilitates a much broader reach to international audiences, particularly people based in less-developed countries. (Veldhuizen et al. 2020).

The same can be true for participants in EU and Erasmus+ programmes both staff and learners attending transnational partner meetings and mobilities. Owing to their accessibility, online meetings respond to the ethos of the Sustainable Development Goals which seeks 'to leave no-one behind'.



UN'S SUSTAINABLE DEVELOPMENT GOALS AND REMOTE WORK IN EUROPE

“

In 2015, the United Nations (UN) released its Sustainable Development Goals (SDGs) to

achieve a better and more sustainable future for all.

These 17 goals, created by the United Nations Development programme and adopted in 2015 by 193 countries, are:

a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity.

United Nations (2015). Transforming our World: The 2030 Agenda for Sustainable Development.

”

Remote work can help meet the goals of the UN in a multitude of ways.

In particular, **nine of the SDGs** can benefit from **embracing telecommuting and all of its benefits.**



Icon source: <https://sdgs.un.org/goals>



GOAL 1

END POVERTY IN ALL ITS FORMS EVERYWHERE



According to FlexJobs, flexibility can be used to better accommodate people who have historically been left out of the traditional workforce. Whether it's due to medical issues, mental health issues, a disability, a rural location without many job opportunities, or lack of access to transportation, many people are **unable to find jobs that can financially meet their needs**. These barriers to employment can be eliminated or reduced with flexible work (Jay, 2019).

With regard to collaborating on EU Erasmus+ and mobility projects, remote work and virtual meetings can increase the opportunities for more staff and learners to engage in career and life-changing projects. Transnational partner meetings owing to budget constraints have limited number of attendees with at most one or two individuals from each organisation attending. When meetings are held online more people can engage.

GOAL 3

ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES



Remote work lessens or eliminates commutes, taking more cars and people off the roads each day thus reducing traffic accidents. Remote working gives people more time and energy to focus on their diet, exercise, relationships, leisure, and passions—all contributors to better well-being and healthier lives. Reducing the friction between work and life can **dramatically reduce the stress and anxiety** of workers and help to prevent mental illness from starting or progressing. There are some negative aspects to working online – loneliness and zoom fatigue being two and there are many benefits to meeting and working face-to-face (Jay, 2019).

This is why we believe the ONE Meeting Methodology works – it balances the best of both.

GOAL 4

ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL



Goal 4 aims to ensure universal access to quality education and promote lifelong learning opportunities. Technology can play an important role in this and in the future of inclusive, quality education. For many education institutions around the world, the lockdowns of 2020 meant face-to-face meetings and teaching had to be replaced by online learning.

Wider access to the internet across societies allows for the **democratisation of education** and the facilitation of better educational opportunities for individuals to work and learn at their own pace and build their own learning paths.

GOAL 5

ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS



Remote work and flexible schedules can help achieve gender equality. With more of a focus on results, and not time-in-seat, working parents can often better handle work and life responsibilities. Parents who are able to flex their schedule and work when it is most convenient for them can often maintain a professional job and perform at a high level.

Many women still spend significantly more time on unpaid care and domestic work. In terms of participation at transnational partner meetings and mobilities, remote and virtual meetings can lead to **increased participation by women and girls**.

GOAL 8

PROMOTE SUSTAINED, INCLUSIVE, AND SUSTAINABLE ECONOMIC GROWTH; FULL AND PRODUCTIVE EMPLOYMENT; AND DECENT WORK FOR ALL



With telecommuting, an employee can work from their home office in a completely different city, state, or country from their employer. Nothing is more suited to help the workforce keep up with globalization more than telecommuting and flexible work. Remote work and online meetings are not hindered by geographic boundaries, or distances to travel. There are no longer technological limitations to what can be done online meaning **work can happen faster** and more can be done in shorter spaces of time.

During the pandemic, we learned that EU projects can work virtually and that virtual mobility is also an option.

GOAL 10

REDUCE INEQUALITY WITHIN AND AMONG COUNTRIES



Europe's rural areas face a common challenge: the creation of high-quality, sustainable jobs. In some cases, remote work can bring jobs to those who may not otherwise have access. It can provide better salaries, reduce expenses for workers, and boost local economies.

The EU Commission places great emphasis on the use of technology to reduce inequalities. The Erasmus+ Programme has been designed to reach a larger target group both within and beyond the Union by a greater use of information, communication and technology tools. Promoting social inclusion and improving the outreach to people with fewer opportunities, including people with disabilities and people with a migrant background, as well as people living in rural and remote areas is a key Erasmus+ priority in the 2021 Programme Guide.

GOAL 11

MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT, AND SUSTAINABLE

11 SUSTAINABLE CITIES AND COMMUNITIES



A key target of this goal is to strengthen links between urban and rural areas for the benefit of both. With a remote work, professionals can live in smaller or rural areas, potentially helping to expose that area to different avenues of wealth and mentorship; especially valuable for young people who are developing personal and professional interests. Creating safe and sustainable cities also involves air quality and road safety.

Remote workers who no longer commute to work can help **reduce traffic congestion** and road wear and tear, reduce greenhouse gases emitted, and reduce oil costs. Remote work and online meetings can help address the Erasmus+ priority related to the Environment and the fight against climate change.

GOAL 12

ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



Companies with remote workers need less office space, have lower utility bills, have less office equipment to purchase and maintain, and can spend less money expanding into new territories. Thus, remote work brings both environmental and bottom-line benefits.

By championing and promoting remote and virtual work in EU projects, the ONE Meeting Project also responds to the Erasmus+ 2021-2027 priority to test innovative practices and prepare learners, staff and youth workers to become true agents of change (e.g. save resources, reduce energy use and waste, compensate carbon footprint emissions, opt for sustainable food and mobility choices, etc.).

GOAL 13

TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS

13 CLIMATE ACTION



The environmental impact of virtual work can't be understated. Carbon footprints also diminish with reduced office energy, less business travel, and paper usage. There is also the added benefit of remote workers being able to continue working through major weather events, such as floods, snow storms, and heat waves. This adds resilience to the economy and decreases risks to individuals even if disasters continue to increase due to climate change (Jay, 2019).

Erasmus+ 2021-2027 prioritises projects which enable behavioural changes for individual preferences, consumption habits, and lifestyles. It places emphasis on the need to develop sustainability competences of educators and education leaders and support the planned approaches of the participating organisations regarding environmental sustainability.



THE ENVIRONMENTAL IMPACT OF EU PROJECT MEETINGS

According to the scientific evidence, the world is currently living in a climate emergency that calls for urgent action. As a society, we are collectively failing to live within our environmental boundaries, with possibly catastrophic consequences for human civilization.

OUR RESPONSIBILITIES REGARDING CARBON EMISSIONS

The United Nations Emissions Gap Report from 2019 stated that each year a global reduction of emissions of 7.6% is required to limit the average global temperature rise to 1.5 °C — the target that was outlined in the Paris Agreement in 2016. At the current rate of emissions, we will exceed the ‘carbon budget’ to meet this goal within the next eight years. While ultimately systemic change is required to solve the climate crisis, it is also the responsibility of individuals to reduce our emissions (Burtscher et al., 2020).

This can apply to the different stakeholders taking part in EU projects, who rely, for instance, on fossil fuel energy for computation or in-person travel. To ensure a sustainable continuity of European projects, there’s a huge need for recognizing the environmental footprint. At the same time, the advancement and sharing of knowledge in general, and particularly with the public, is becoming even more vital as we face a global threat.

REDUCING THE ENVIRONMENTAL FOOTPRINT OF EU PROJECTS

To reduce the environmental footprint of EU projects, Burtscher et al. (2020) see a possibility in moving in the future to an entirely online meeting format without any or one physical meeting, such as the vision of the ONE Meeting Project.

These meetings could be held in the ‘nearly carbon neutral conferencing’ format. That essentially means with pre-recorded talks and live discussion sessions, to minimize the time where everyone needs to be online simultaneously, and therefore allowing global collaboration across many time-zones.

The emerging picture is that there is a real opportunity for future meetings to adopt practices that provide a range of attendance possibilities for participants, which promote a more sustainable, accessible and diverse meeting concept for the growing international community.

While discussions are ongoing regarding the future of meetings, we expect that the post-COVID-19 future will hold a mix of purely virtual conferences, next to hybrid meetings where some participants join in person and others use a video connection.



THE ISSUE WITH TRANSNATIONAL AIR TRAVEL

Aviation is one of the fastest growing sources of greenhouse gas (GHG) emissions. According to Ciers, Mandic, Toth and Veld (2018), besides the global warming effect through the emission of greenhouse gasses such as CO₂ and NO_x, airplanes cause additional radiative forcing (RF) through the generation of condensation trails (contrails), which eventually form cirrus or altocumulus clouds, and the formation of tropospheric ozone by NO_x.

At a global level, only a small fraction of people participates in air travel. It was estimated that only about 2% to 3% of the world population take an international flight over the course of a year.

This illustrates that air travel is very unequally distributed with a small number of high-footprint hypermobile travelers.

One group of people with a particularly high air travel footprint are academics and researchers. Indeed, many researchers are frequent travelers due to the importance of meetings, conferences, workshops, international collaborations or visiting positions.

TOWARDS MORE SUSTAINABLE TRAVEL CHOICES

Ciers et al. (2018) highlight that GHG emissions could be reduced by 36% by replacing business and first-class trips by economy class ones; short flights by train trips; and indirect journeys with direct flights.

This significant amount shows that substantial reductions are possible by making the appropriate choices. However, there are several challenges in achieving this reduction, train connections or direct flights are not always available and are in some cases more expensive.

Hence, any individual or organization wishing to reduce their air travel GHG emission should, in cases where physical travel is absolutely required, favor economy class, train travel, and direct flights where comfort and/or availability allow to do so.



02

THE ONE MEETING METHODOLOGY APPLIED



THE ONE MEETING METHODOLOGY APPLIED

Passenger mobility causes energy consumption, carbon dioxide emissions and other exhaust emissions. The ONE Business Case sought to find out the ecological impact of Erasmus+ projects in-person meetings in quantitative terms.

In a series of case studies scenarios, the ONE meeting methodology was applied and the findings are presented in this section. Results should serve as a good practice for future Erasmus+ projects.

THE METHODOLOGY USED TO CONDUCT THE ONE MEETING PROJECT CASE STUDY INCLUDES TWO SCENARIOS;

SCENARIO 1, which is the real scenario of the ONE Meeting Project, and foresees only one in-person meeting, and

SCENARIO 2, which is the “simulated” scenario, and includes three in-person meetings. On Table 3, an overview of the meetings, locations that fall within each scenario is displayed.

SCENARIO 1 “REAL – THE ONE MEETING METHODOLOGY APPLIED”
<p>MEETING #1: THE ONE FACE TO FACE MEETING</p> <ul style="list-style-type: none">Objective: Preparation of the Multiplier Events, exercise on Sustainability Strategy and round-up Impact exercise<ul style="list-style-type: none">Host: FernUniversität in Hagen, Germany
SCENARIO 2 “simulated – IF THE ONE MEETING METHODOLOGY WAS NOT APPLIED ”
<p>MEETING #1: KICK OFF MEETING</p> <ul style="list-style-type: none">Objective: focus on project set up and implementation and The Business Case for ONE Meeting Projects in Europe<ul style="list-style-type: none">Host: FernUniversität in Hagen, Germany <p>MEETING #2: MID-TERM MEETING</p> <ul style="list-style-type: none">Objective: focus on quality and impact measurement and the ONE Project Virtual Toolkit<ul style="list-style-type: none">Host: Università degli Studi di Milano-Bicocca in Milan, Italy <p>MEETING #3: FINAL MEETING</p> <ul style="list-style-type: none">Objective: focus on multiplier events/sustainability and All-You-Need-To-Know Guide to Running ONE Meeting Projects<ul style="list-style-type: none">Host: Universitat Oberta de Catalunya Barcelona, Spain

Table 1: Presentation of the scenarios

The analysis has been conducted by comparing the environmental footprint of both scenarios for all the partners of the ONE Meeting Project, listed on Table 4. (see page 19)

PARTNER	COUNTRY HEADQUARTERS	LOCATION
FernUniversität in Hagen (FeU)	Germany	Hagen
University of Jyväskylä (JYU)	Finland	Jyväskylä
Universitat Oberta de Catalunya (UOC)	Spain	Barcelona
Università degli Studi di Milano-Bicocca (UNIMIB)	Italy	Milan
Canice Consulting Ltd (CCL)	United Kingdom	Belfast
Momentum (MMS)	Ireland	Leitrim
European University Continuing Education Network (EUCEN)	Belgium	Brussels

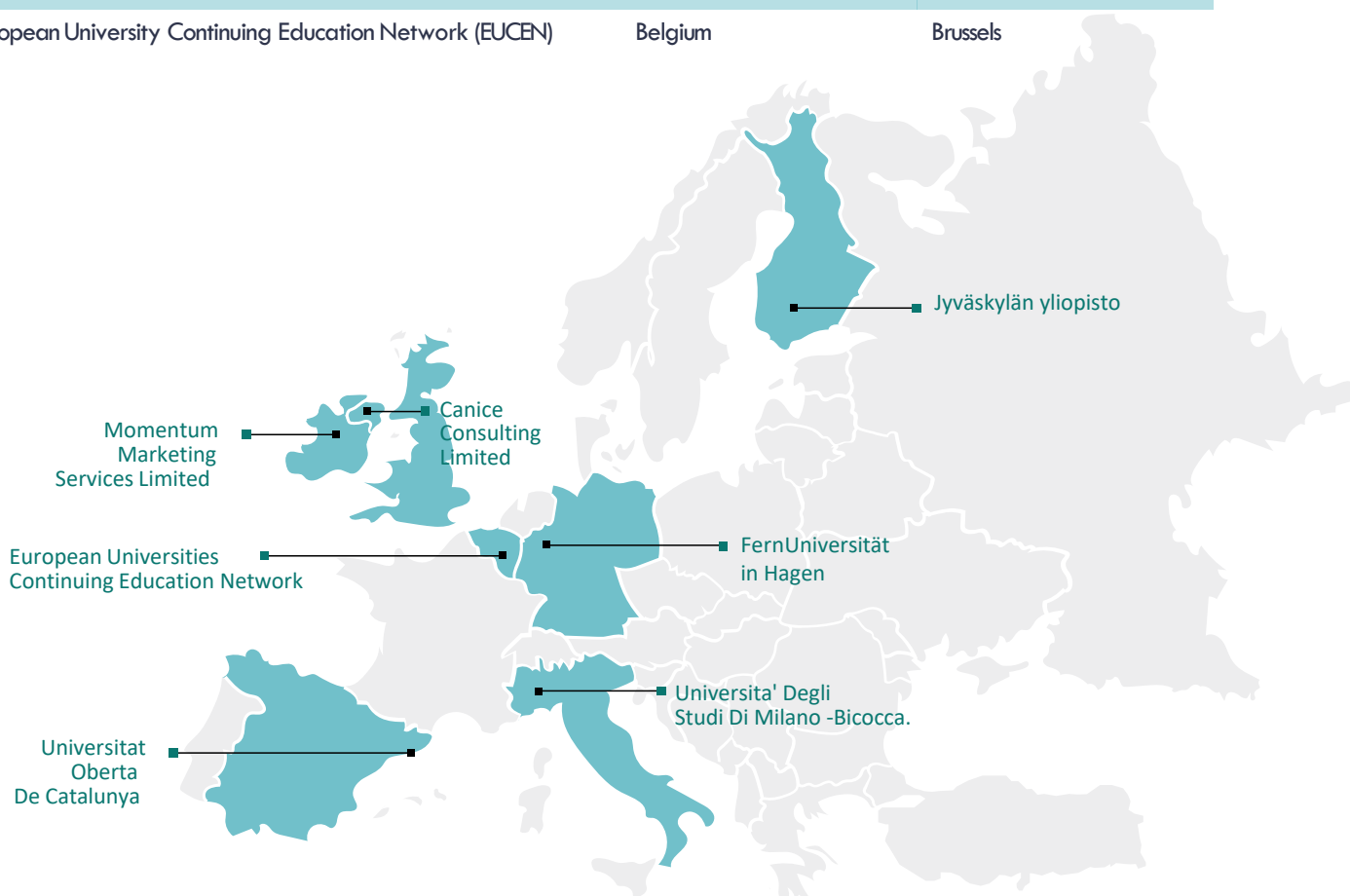


Table 2: Summary of Partner's location

In order to obtain the environmental footprint of both scenarios, an online questionnaire was distributed across partners. The questionnaire was very simple and only asked for the partners' origin and final destination, number of attendees and their main mode of transport.

We computed the CO₂-equivalent emissions associated with every plane, car or train trip using two online travel footprint calculators with its default settings: Ecopassenger and MyClimate. The analysis conducted with Ecopassenger provided a more detailed overview of the environmental footprint of holding in-person meetings, taking into account transportation by car, train or plane.

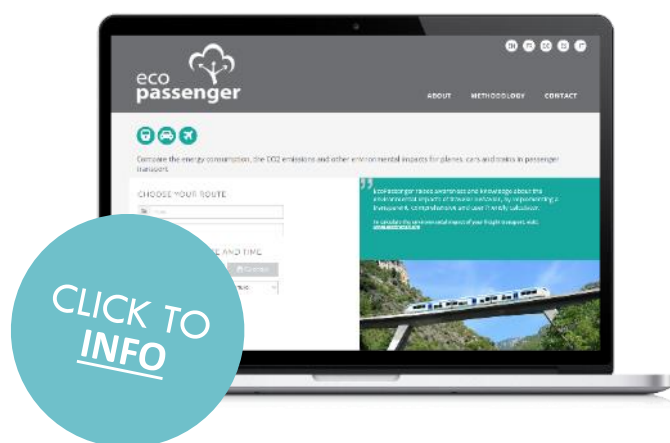


However, Ecopassenger does not provide data for Ireland or the United Kingdom. Therefore, the analysis with Ecopassenger excluded Canice Consulting and Momentum, which are based in the UK and Ireland respectively.

In parallel, in order to have an overview of the environmental footprint of in-person meetings for the whole consortium, a second high-level analysis was conducted with MyClimate. MyClimate provides less information than Ecopassenger but does not have country limitations. A brief summary of both of the tools is provided below:

ECOPASSENGER: Ecopassenger is an online tool that compares energy consumptions and global warming and local emissions of the different major transport modes on passenger traffic. EcoPassenger is based on methodologies and emission factors, which are internationally accepted and adapted to latest scientific findings. The main task of EcoPassenger is to deliver specific primary energy consumptions and pollutant emissions data for passenger trips in Europe and Russia. The transport modes to be assessed are road transport, rail transport and air transport. Information is provided on individual routes. Therefore, the relevant environment-related parameters of each transport process, such as route characteristics and length, load factor, vehicle size and engine type, are individually taken into account. The evaluation includes energy consumption, carbon dioxide emissions and exhaust emissions.

MYCLIMATE: MyClimate is an online tool that calculates CO₂ emissions of flights, amongst other transportation methods. The flight emission calculator quantifies the direct and indirect CO₂-equivalent emissions per passenger for a given flight distance. The estimated emissions represent an average value for the distance between a given pair of origin and destination airports. The quantification is based on the most recent international statistics on passenger and cargo loads and aircraft type usage. The estimated emissions per passenger and cargo loads and aircraft type usage are calculated by the MyClimate tool.



As for the calculation of the environmental footprint of online meetings, this has not been included on the report given the time and resources limitations of the study. As part of the tasks that fall under The Business Case for ONE Meeting Projects in Europe, the model used to test the environmental footprint for the ONE Meeting Project through MyClimate has been applied to 13 EU-funded projects and have been included on the present report. This has been done in order to reinforce the overall objectives guiding this study, while also raising awareness across EU-funded projects partner organisations.

ECOPASSENGER – EXAMINING OUR ENERGY CONSUMPTIONS AND POLLUTANT EMISSIONS

SCENARIO 1

As explained on Table 3, scenario 1 is the “real” scenario of the ONE Meeting Project. It counts with one meeting, “the ONE face-to-face meeting”, with the objective of preparing the multiplier events, conduct an exercise on Sustainability Strategy and a round-up exercise. The meeting will be hosted by FernUniversität in Hagen (FeU), the project coordinator, in Hagen, Germany. On Table 5 we present the results of the environmental footprint calculation provided by Ecopassenger.

Partner	Origin	Means of transportation	Carbon dioxide kilograms (in kg)	Energy resource consumption liter gasoline equivalent	Particulate matter grams (in g)	Nitrogen oxides grams (in g)	Nonmethane hydrocarbons grams (in g)	Carbon dioxide kilograms (in kg)	Energy resource consumption liter gasoline equivalent	Particulate matter grams (in g)	Nitrogen oxides grams (in g)	Nonmethane hydrocarbons grams (in g)
Person 1			Outgoing					Return				
FeU	Berlin	Train	16,7	8	2,6	22,8	1	16,8	8,1	2,7	23	1
JYU	Jyväskylä	Taxi and Plane	432,5	108,2	24,2	1077,6	111,2	427,1	113,9	25,8	1161,5	115,9
UOC	Barcelona	Train and Plane	242,7	46,4	11	456,1	43,2	242,7	46,4	11,1	456,1	43,3
UNIMIB	Milan	Train and Plane	177,7	54,3	12,1	559,1	55,1	177,7	54,3	12,2	559,2	55,3
CCL	Belfast	Bus and Plane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MMS	Leitrim	Car, Plane, Train	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EUCEN	Brussels	Train and Plane	98,4	41,7	9,2	469,1	41	98,4	41,7	9,2	469,1	43,3
Person 2			Outgoing					Return				
FeU	Berlin	Train	16,7	8	2,6	22,8	1	16,8	8,1	2,7	23	1
JYU	Jyväskylä	Taxi and Plane	432,5	108,2	24,2	1077,6	111,2	427,1	113,9	25,8	1161,5	115,9
UOC	Barcelona	Train and Plane	242,7	46,4	11	456,1	43,2	242,7	46,4	11,1	456,1	43,3
UNIMIB	Milan	Train and Plane	177,7	54,3	12,1	559,1	55,1	177,7	54,3	12,2	559,2	55,3
CCL	Belfast	Bus and Plane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MMS	Leitrim	Car, Plane, Train	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EUCEN	Brussels	Train and Plane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total			1837,6	475,5	109	4700,3	462	1827	487,1	112,8	4868,7	474,3

Table 3: Ecopassenger results for Scenario 1 (Hagen, Germany)

Source: Authors' elaboration



SCENARIO 2

As explained on Table 3, scenario 2 is the “simulated” scenario of the ONE Meeting Project, which counts with multiple in-person meetings, recreating the usual scenario of Erasmus+ projects. The three meetings are:

- Meeting 2a “Kick-off meeting”, with the objective of setting up and implementing the project, as well as discussing the Business Case for ONE Meeting Projects in Europe. The meeting would be hosted by FeU, the project coordinator, in Hagen, Germany.
- Meeting 2b “Mid-term meeting”, with the objective of assessing project quality and measuring impact, as well as discussing the ONE Project Virtual Toolkit. The meeting would be hosted by UNIMIB in Milan, Italy.
- Meeting 2c “Final meeting”, with the objective of discussing multiplier events/sustainability and the All-You-Need-To-Know Guide to Running ONE Meeting Projects. The meeting would be hosted by Universitat Oberta de Catalunya in Barcelona, Spain.

On Table 4, Table 5 and Table 6 we present the results of the environmental footprint calculation provided by Ecopassenger.

Partner	Origin	Means of transportation	Carbon dioxide kilo grams (in kg)	Energy resource consumption liter gasoline equivalent	Particulate matter grams (in g)	Nitrogen oxides grams (in g)	Nonmethane hydrocarbons grams (in g)	Carbon dioxide kilo grams (in kg)	Energy resource consumption liter gasoline equivalent	Particulate matter grams (in g)	Nitrogen oxides grams (in g)	Nonmethane hydrocarbons grams (in g)
Person 1			Outgoing					Return				
FeU	Berlin	Train	16,7	8	2,6	22,8	1	16,8	8,1	2,7	23	1
JYU	Jyväskylä	Taxi and Plane	432,5	108,2	24,2	1077,6	111,2	427,1	113,9	25,8	1161,5	115,9
UOC	Barcelona	Train and Plane	242,7	46,4	11	456,1	43,2	242,7	46,4	11,1	456,1	43,3
UNIMIB	Milan	Train and Plane	177,7	54,3	12,1	559,1	55,1	177,7	54,3	12,2	559,2	55,3
CCL	Belfast	Bus and Plane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MMS	Leitrim	Car, Plane, Train	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EUCEN	Brussels	Train and Plane	98,4	41,7	9,2	469,1	41	98,4	41,7	9,2	469,1	43,3
Person 2			Outgoing					Return				
FeU	Berlin	Train	16,7	8	2,6	22,8	1	16,8	8,1	2,7	23	1
JYU	Jyväskylä	Taxi and Plane	432,5	108,2	24,2	1077,6	111,2	427,1	113,9	25,8	1161,5	115,9
UOC	Barcelona	Train and Plane	242,7	46,4	11	456,1	43,2	242,7	46,4	11,1	456,1	43,3
UNIMIB	Milan	Train and Plane	177,7	54,3	12,1	559,1	55,1	177,7	54,3	12,2	559,2	55,3
CCL	Belfast	Bus and Plane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MMS	Leitrim	Car, Plane, Train	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EUCEN	Brussels	Train and Plane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total			1837,6	475,5	109	4700,3	462	1827	487,1	112,8	4868,7	474,3

Table 4: Ecopassenger results for Scenario 2a (Hagen, Germany)

Partner	Origin	Means of transportation	Carbon dioxide kilo grams (in kg)	Energy resource consumption liter gasoline equivalent	Particulate matter grams (in g)	Nitrogen oxides grams (in g)	Nonmethane hydrocarbons grams (in g)	Carbon dioxide kilo grams (in kg)	Energy resource consumption liter gasoline equivalent	Particulate matter grams (in g)	Nitrogen oxides grams (in g)	Nonmethane hydrocarbons grams (in g)
Person 1			Outgoing					Return				
FeU	Berlin	Train and Plane	140	58,8	13,6	587,5	59,1	140,1	58,8	13,5	587,4	58,9
JYU	Jyväskylä	Taxi and Plane	293,9	123,4	27,7	1241,8	127,1	182	76,4	17,9	772,7	73,7
UOC	Barcelona	Train and Plane	135,2	56,9	12,9	583,6	59,5	135,2	56,9	12,9	583,6	59,5
UNIMIB	Milan	Car	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CCL	Belfast	Bus and Plane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MMS	Leitrim	Car, Plane, Train	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EUCEN	Brussels	Train and Plane	128,4	54,2	12,3	554,6	56,6	128,4	54,2	12,3	554,6	56,6
Person 2			Outgoing					Return				
FeU	Berlin	Train and Plane	140	58,8	13,6	587,5	59,1	140,1	58,8	13,5	587,4	58,9
JYU	Jyväskylä	Taxi and Plane	293,9	123,4	27,7	1241,8	127,1	182	76,4	17,9	772,7	73,7
UOC	Barcelona	Train and Plane	135,2	56,9	12,9	583,6	59,5	135,2	56,9	12,9	583,6	59,5
UNIMIB	Milan	Car	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CCL	Belfast	Bus and Plane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MMS	Leitrim	Car, Plane, Train	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EUCEN	Brussels	Train and Plane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total			1266,6	532,4	120,7	5380,4	548	1043	438,4	100,9	4442	440,8

Table 5: Ecopassenger results for Scenario 2b (Milan, Italy)

Source: Authors' elaboration

Partner	Origin	Means of transportation	Carbon dioxide kilograms (in kg)	Energy resource consumption liter gasoline equivalent	Particulate matter grams (in g)	Nitrogen oxides grams (in g)	Nonmethane hydrocarbons grams (in g)	Carbon dioxide kilograms (in kg)	Energy resource consumption liter gasoline equivalent	Particulate matter grams (in g)	Nitrogen oxides grams (in g)	Nonmethane hydrocarbons grams (in g)
Person 1 Outgoing			140	58,8	13,9	594,7	56,8	Return				
FeU	Berlin	Train	140	58,8	13,9	594,7	56,8	140	58,8	13,9	594,7	56,8
JYU	Jyväskylä	Taxi and Plane	240,6	101	23,7	1021,6	97,4	240,6	101	23,7	1021,6	97,4
UOC	Barcelona	Train and Plane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
UNIMIB	Milan	Train and Plane	135,2	56,9	12,9	583,6	59,5	135,2	56,9	12,9	583,6	59,5
CCL	Belfast	Bus and Plane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MMS	Leitrim	Car, Plane, Train	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EUCEN	Brussels	Train and Plane	102,1	43,2	10,1	432,8	41,2	102,1	43,2	10,1	432,8	41,2
Person 2 Outgoing			140	58,8	13,9	594,7	56,8	Return				
FeU	Berlin	Train	140	58,8	13,9	594,7	56,8	140	58,8	13,9	594,7	56,8
JYU	Jyväskylä	Taxi and Plane	240,6	101	23,7	1021,6	97,4	240,6	101	23,7	1021,6	97,4
UOC	Barcelona	Train and Plane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
UNIMIB	Milan	Train and Plane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CCL	Belfast	Bus and Plane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MMS	Leitrim	Car, Plane, Train	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EUCEN	Brussels	Train and Plane	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total			998,5	419,7	98,2	4249	409,1	998,5	419,7	98,2	4249	409,1

Table 6: Ecopassenger results for Scenario 2c (Barcelona, Spain)

Main results from Scenario 1 and Scenario 2 have been summarized on Table 7.



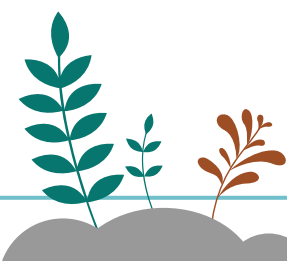
It is important to note again, Ecopassenger does not provide data for Ireland or the United Kingdom. Therefore, the analysis with Ecopassenger excluded Canice Consulting Ltd and Momentum, which are based in the UK and Ireland respectively.

	SCENARIO 1	SCENARIO 2
Carbon dioxide kilograms (in kg)	3664,6	7971,2
Energy resource consumption liter gasoline equivalent (in liters)	962,6	1427,6
Particulate matter grams (in g)	221,8	639,8
Nitrogen oxides grams (in g)	9569	27889,4
Nonmethane hydrocarbons grams (in g)	936,3	2743,3

Table 7: Ecopassenger summary of results from Scenario 1 and Scenario 2

Source: Authors' elaboration

Nevertheless, we considered the analysis relevant as it contains a higher level of granularity on the results. A second analysis with MyClimate includes all partners within the ONE Meeting Project consortium.



MY CLIMATE – INVESTIGATING OUR CO2-EQUIVALENT EMISSIONS

In this set of scenarios, the “real” case is that the ONE Meeting Methodology was not applied in the design of the 13 projects studied. The “simulated” case represents the scenario and related CO2-equivalent emissions had the ONE Meeting Methodology been applied.

SCENARIO 1

As explained on Table 3, scenario 1 is the “real” scenario of the ONE Meeting Project. It counts with one meeting, “the ONE face-to-face meeting”, with the objective of preparing the multiplier events, conduct an exercise on Sustainability Strategy and a round-up exercise. The meeting will be hosted by FeU, the project coordinator in Hagen, Germany. On Table 8 we present the results of the environmental footprint calculation provided by MyClimate.

Partner	Origin	Means of transportation	CO2 amount (in t)
FeU	Berlin	N/A	N/A
JYU	Jyväskylä	Airplane	1,1
UOC	Barcelona	Airplane	0,944
UNIMIB	Milan	Airplane	0,681
CCL	Belfast	Airplane	0,413
MMS	Leitrim	Airplane	0,405
EUCN	Brussels	Airplane	0,206
Total			3,749

Table 8: MyClimate results for Scenario 1 (Hagen, Germany)

Source: Authors' elaboration

SCENARIO 2

As explained on Table 3, scenario 2 is the “simulated” scenario of the ONE Meeting Project with multiple in-person meetings, recreating the usual scenario of Erasmus+ projects. The three meetings are:

- Meeting 2a “Kick off meeting”, with the objective of setting up and implementing the project, as well as discussing the Business Case for ONE Meeting Projects in Europe. The meeting would be hosted by FeU, the project coordinator, in Hagen, Germany.
- Meeting 2b “Mid-term meeting”, with the objective of assessing project quality and measuring impact, as well as discussing the ONE Project Virtual Toolkit . The meeting would be hosted by UNIMIB in Milan, Italy.
- Meeting 2c “Final meeting”, with the objective of discussing multiplier events/sustainability and the All-You-Need-To-Know Guide to Running ONE Meeting Projects. The meeting would be hosted by the Universitat Oberta de Catalunya in Barcelona, Spain.

Partner	Origin	Means of transportation	CO2 amount (in t)
FeU	Berlin	N/A	N/A
JYU	Jyväskylä	Airplane	1,1
UOC	Barcelona	Airplane	0,944
UNIMIB	Milan	Airplane	0,681
CLL	Belfast	Airplane	0,413
MMS	Leitrim	Airplane	0,405
EUCEN	Brussels	Airplane	0,206
Total			3,749

Table 9: MyClimate results for Scenario 2a (Hagen, Germany)

Partner	Origin	Means of transportation	CO2 amount (in t)
FeU	Berlin	Airplane	0,763
JYU	Jyväskylä	Airplane	1,9
UOC	Barcelona	Airplane	0,716
UNIMIB	Milan	N/A	N/A
CLL	Belfast	Airplane	0,558
MMS	Leitrim	Airplane	0,539
EUCEN	Brussels	Airplane	0,348
Total			4,824

Table 10: MyClimate results for Scenario 2b (Milan, Italy)

Partner	Origin	Means of transportation	CO2 amount (in t)
FeU	Berlin	Airplane	0,944
JYU	Jyväskylä	Airplane	2,3
UOC	Barcelona	N/A	N/A
UNIMIB	Milan	Airplane	0,359
CLL	Belfast	Airplane	0,596
MMS	Leitrim	Airplane	0,556
EUCEN	Brussels	Airplane	0,45
Total			5,205

Table 11: MyClimate results for Scenario 2c (Barcelona, Spain)

Source: Authors' elaboration



Main results from Scenario 1 and Scenario 2 have been summarized on Box 1. This analysis includes all the partners within the ONE Meeting Project consortium.

CO2 AMOUNT (IN TONS):

Scenario 1:	3,749
Scenario 2:	13,778

Box 1: MyClimate summary of results from Scenario 1 and Scenario 2



ACTIVITY: TEST THE ONE MEETING METHODOLOGY YOURSELF!

Passenger mobility causes energy consumption, carbon dioxide emissions and other exhaust emissions. Through this Business Case, the ONE Meeting Project sought to find out the ecological impact of Erasmus+ in-person meetings.

The objective of the scenario case study exercise is to compare and quantify the travel related carbon footprint of in-person meetings. Results should serve as a good practice to other Erasmus+ projects, which could implement the same one meeting policy on their respective workplans.



Use the My Climate tool and our worksheet to compare and quantify the travel related carbon footprint of your current or future in-person transnational partner meetings.

HOW TO USE THE WORKSHEET (see download accompanying this doc)

The ONE meeting methodology worksheet hinges on two case study scenarios;

1. Scenario 1 is the real and current scenario your project which foresees several in-person meetings
2. Scenario 2, which is the simulated or applied ONE Meeting Methodology scenario which consists of only ONE meeting.

The analysis consists of a comparison between the environmental footprint of both scenarios for all the partners of your project. In order to obtain the environmental footprint of both scenarios, for each Partner of the consortium you need to add the city of origin and number of attendees. This business study only analyses travelling by airplane, any other means of transport are excluded and should be added as “N/A”.

PLEASE SEE A SCREENSHOT BELOW OF THE DATA COLLECTION GRID, WHICH IS AVAILABLE TO DOWNLOAD FROM www.TheProjectOne.eu

Scenario 1 (real scenario)
Indicate below the information for the in-person meetings in your project (excluding testings, workshops, etc.)

Data to be included in MyClimate:
Locations, number of people, roundtrip, economy class

Meeting #1	Partner	Origin	Destination	Means of transportation	N° of attendees	CO2 amount (in t)
1	[add here name of the partner] e.g. Universitat Oberta de Catalunya	[city of origin] Barcelona	[city of destination] Düsseldorf	[see only analyse airplane transportation] Airplane	[add here number] 1	[add here results from MyClimate] 0.472
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
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Figure 1. Data collection tool

Once the data analysis grid is ready, you will need to collect your results through the MyClimate tool. MyClimate is an online tool that calculates CO₂ emissions of flights. The flight emission calculator quantifies the direct and indirect CO₂-equivalent emissions per passenger for a given flight distance.

The estimated emissions represent an average value for the distance between a given pair of origin and destination airports. The quantification is based on the most recent international statistics on passenger and cargo loads and aircraft type usage. The estimated emissions per passenger and cargo loads and aircraft type usage. Below we present step by step how to collect the information.

STEP 1:

Go to MyClimate tool here:

https://co2.myclimate.org/en/flight_calculators/new

STEP 2:

Follow the indications on the My Climate tool as per the image below.

Offset your flight emissions!

From*
Barcelona

To*
Düsseldorf

Via
Düsseldorf

Number of passengers
1

Roundtrip
Economy Class

CALCULATE

CLIC CALCULATE!

STEP 3:

Take note of the results:

Calculate Offset Pay

Your flight:
From: Barcelona (ES), BCN to: Düsseldorf (DE), DUS, Roundtrip, Economy Class, ca. 2,300 km, 1 traveller

CO₂ amount: 0.472 t

STEP 4:

Add them to the data collection tool:

Meeting #1	Partner	Origin	Destination	Means of transportation	N° of attendees	CO2 amount (in t)
1	[add here name of the partner] e.g. Universitat Oberta de Catalunya	[city of origin] Barcelona	[city of destination] Düsseldorf	[see only analyse airplane transportation] Airplane	[add here number] 1	[add here results from MyClimate] 0.472
2.						

STEP 5:

Do the same for every partner, for every meeting on both scenarios until you have a complete picture and overview of the flight related CO₂.



03

OPTIMISING ONLINE MEETINGS, EVENTS AND COLLABORATION



OPTIMISING ONLINE MEETINGS, EVENTS AND COLLABORATION

The COVID-19 pandemic highlighted the importance of optimizing communication, and in particular, online communication. During the pandemic, many organisations involved in EU projects had to adapt to conducting virtual meetings in a very short amount of time with no prior knowledge or training on it. They, therefore, had an urgent need to retrieve information on how to conduct online meetings. At the same time, new insights, ideas, and experiences were and are being generated continuously. As many EU meetings and conferences have shifted to online platforms in a short period of time, the future of in-person conferences remains uncertain.

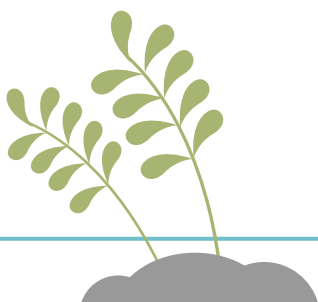
We are expecting changes in EU project design to enable virtual meetings and mobilities in the near future. It is clear that enhanced access to integrated, high-quality and efficient virtual meetings could become part of the norm of future EU collaboration projects. Below we outline some of the best practices identified which can help us move towards more successful online meetings.

THE CONCEPT OF THE ‘OPTIMAL MEETING’

According to Arnfalk et al. (2003), the concept of ‘optimal meeting’ was developed to illustrate the complex range of aspects that influence the costs and benefits that relate to a meeting.

THE BENEFITS OF A MEETING CAN BE DIVIDED INTO TWO CATEGORIES:

- 01 PRIVATE BENEFITS.** They should reflect the sum of each meeting participant’s individual benefits from a meeting. This includes, among others, building personal networks, building deeper personal relations or the pleasure of getting out of the office and seeing new places.
- 02 ORGANIZATIONAL BENEFITS.** They should reflect the sum of each participating organization’s use of the meeting, including the short-term and long-term consequences of the meeting. But organizational benefits could also include private benefits that are of use for the employer as well, for instance if an employee forms a close relationship with a peer, this is also likely to be of benefit to the employer.



PRIVATE, ORGANIZATIONAL AND SOCIETAL MEETING COSTS

THE COST OF A MEETING CAN BE DIVIDED INTO THREE CATEGORIES:

- 01 PRIVATE COSTS.** They should reflect the total of each meeting participant's individual discomfort from a meeting, this could include, having to stay away from home over night, or getting up very early in the morning to catch a flight, fear of flying, etc.
- 02 ORGANIZATIONAL COSTS.** They should reflect the participating organization's full cost of the meetings including, e.g. travel cost, cost of accommodations, cost of travel allowances, the connection cost (virtual meetings), cost of time not used for effective work during travel, etc.
- 03 SOCIETAL COSTS.** They should reflect the cost to society of a meeting including the environmental impacts caused by the meeting, but also the costs of infrastructure or healthcare that have not already been included through taxes or pricing mechanisms, i.e. the externalities.

It is widely acknowledged that the benefits and the costs are affected by the choice of the meeting form. This choice can be optimized if, for instance, the total benefits exceed the total costs of the meeting by as much as possible, or if the total costs exceed the total benefits by as little as possible.



UNDERSTANDING THE BARRIERS TO ONLINE COLLABORATION

Other factors that are found to present either a barrier or a driver for virtual meetings, are the availability of meeting infrastructure, organizational culture, employee preferences, attitudes and skills, possibly employee values, familiar situation, external meeting participants and, to some extent, suppliers of personal transport.

LACK OF ICT TRAINING

While studying the barriers that hinder online collaboration, many factors have been identified that influence meeting behaviours including and going beyond technology issues (Arnfolk et al., 2003). Reduction in travel results in increased use of ICT and a lack of training on online resources to hold virtual meetings is barrier reported by Arnfolk et al. (2003).

With research suggesting that the success of virtual communications is, in fact, as dependent on 'people-issues' as it is on 'technology-issues'. Therefore, training and information about available options, as well as support functions and user guidelines must be ensured for an effective shift towards online meetings.

Although individuals might be familiar with working with ICT, it should not be assumed that they know how to use the tools available to hold online meetings, especially since communication over new mediums require some 'getting used to' before it feels comfortable for the users. It is worth emphasizing at this point that organizational factor such as human resource management, organizational culture, management control systems and organizational structure or meeting infrastructures play a role that influence ICT literacy of employees and can greatly vary across organisations.

ORGANISATIONAL CULTURE AND INTERNAL POLICY

Arnfolk et al. (2003) found that certain management approaches of companies can directly or indirectly stimulate the increased substitution of physical meetings with virtual meetings. They found that the most difficult factor to manipulate is the organizational culture, and this factor may constitute a major barrier for the introduction of new ways of meetings.

However, through leadership and direct modifications within the other internal factors, management may consciously influence the organizational culture as well as the skills, preferences, attitudes and values of their employees. In addition to companies' management approaches, project leader's influence also plays a key role in this respect.

Depending on the project leader's attitude, knowledge and skills on participating in virtual meetings, the use of these media for project meetings can be more or less common.

From the ONE Meeting Project partnerships own experience, it is clear that decisive, clear and creative leadership is required to champion the ONE Meeting Methodology. In addition, agreements and policy statements relating to virtual meetings and business travel, are also likely to influence external meeting participants (Arnfolk et al., 2003).



If a lack of ICT training is a barrier you, your colleagues or your project partners might face, you might be interested in. The ONE Virtual Toolkit – A toolkit with practical guidance on how to integrate meeting, project planning, creativity and collaboration software and tools. The All-you-need-to-know Guide to Running ONE-meeting projects offers some concrete tips to realise successful online partner meetings practical guide presenting a step-by-step strategy for converting projects into "ONE meeting only" format.

UNDERSTANDING THE BARRIERS TO ONLINE COLLABORATION

ZOOM FATIGUE

Zoom fatigue is tiredness, worry or burnout associated with the overuse of virtual platforms of communication, particularly videoconferencing. The name derives from the cloud-based videoconferencing and online chat software Zoom, even if it used to refer to non-Zoom video conferencing platforms.

There are many interesting studies being conducted in this space. Géraldine Fauville of the University of Gothenburg found that Zoom fatigue affected women more than men, with women typically having longer meetings and shorter breaks between meetings than men (Fauville et al. 2021).

There is no doubt that the current post-pandemic situation has amplified “zoom fatigue” but interestingly researchers have stated that they still appreciate virtual scientific conferences, and that they would like to keep having them (Rommel, 2021).



Need tips on combatting zoom fatigue and the creative use of technology for online meetings? The ONE Virtual Toolkit is a practical toolkit with guidance on how to integrate meeting, project planning, creativity and collaboration software and tools in your work.

PERCEIVED SIGNIFICANCE OF ONLINE MEETINGS

Another characteristic that has been commonly attributed to virtual meetings, is that they are considered as “second class” meetings. For many, the transition towards virtual working and online meetings was a forced experiment and happened during the pandemic it was born of necessity, not of planning or choice.

According to Rowe, there is a prevailing hesitancy about whether it is appropriate to meet certain types of partners or clients online, since virtual meetings are sometimes perceived as less personal and therefore less significant. Visibility and the opportunity to network at in-person meetings is considered a key motivator for in-person attendees and a lot of value is placed on meetings and conferences which provide these opportunities (Rowe, 2018).

Interestingly, Rommel (2021) has found that early-career scientists and introverts might find it less intimidating to ask questions and reach out to new people during virtual sessions than during in-person meetings.

PREFERENCE FOR ONLINE MEETINGS

Raby & Madden (2021) report that while many academics may enjoy the ability and privilege to travel somewhere new, this is only the case if the conference is in a location that is not too costly, time-consuming, or dangerous to travel to.

A further interesting factor that has been reported to influence willingness towards switching to online meetings is individual’s personal life situations. Arnfalk et al. (2003) found that a driver for virtual meetings was found to be related to the family situation, notably employees with small children were reluctant to travel frequently to meetings.

Another group of employees that favoured virtual meetings were frequent travelers, who expressed weariness for traveling back and forth to the company’s main office. In this respect, the flexibility that online conferences provide is important for attendees and a key motivator for their attendance. From this we can gather that online meetings and conferences are becoming an increasingly attractive option for academics.



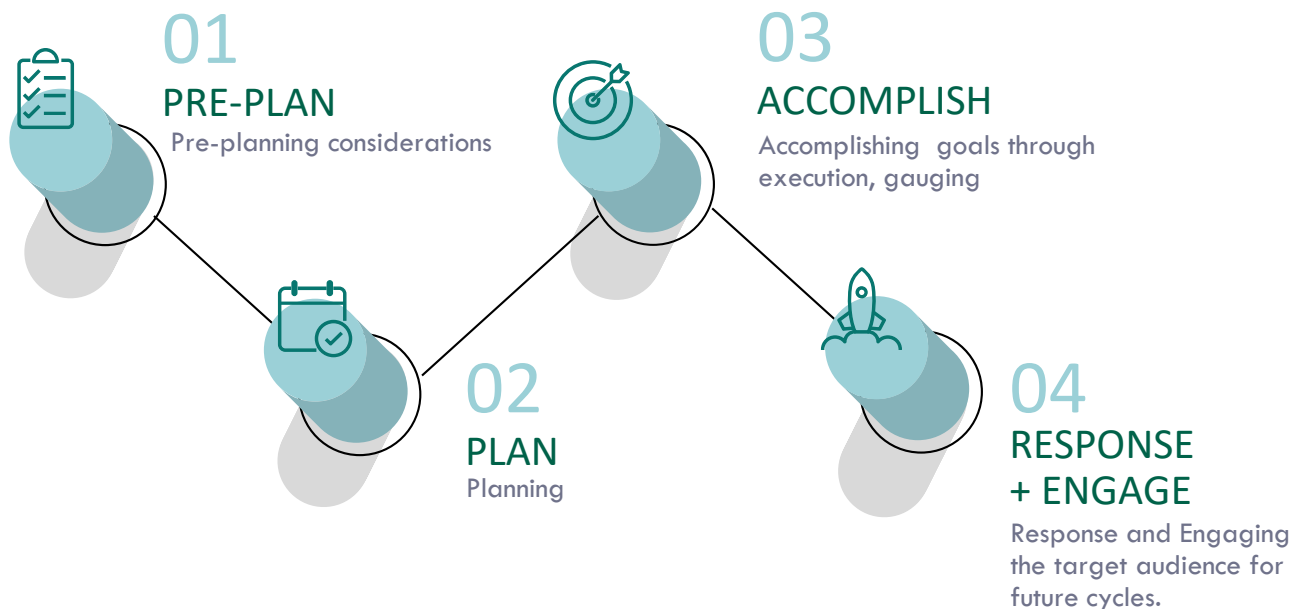
04

PLANNING MEETING CYCLE



PLANNING MEETING CYCLE

RUBINGER (2020) IDENTIFIED FOUR PHASES OF THE MEETING CYCLE, NOTABLY:



The four phases of the meeting cycling Source: Author's elaboration based on Rubinger (2020)



PRE-PLANNING PHASE

The **pre-planning phase** of a virtual meeting is arguably the most important phase of the meeting cycle, as it represents the initial foundation that is laid out for the virtual meeting that is to be planned and executed. This foundation consists of defining the attendees. Some of the recommendations for this phase are:

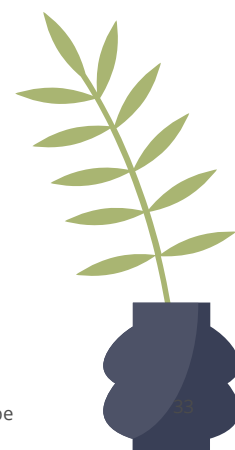
- To define the organizing committee at an early stage.
- To define the target audience based on objective measures.
- To assign a committee member as an Accessibility Chair to establish and oversee best practices of accessibility at the given virtual meeting for the given target audience. Auditory, visual, economic and technological accessibility should all be considered.
- To define at an early stage the type of meeting, with focus on achieving translation of desired knowledge and engaging the target audience.



PLANNING PHASE

Next, the **planning phase** represents both large and small decisions about the format of the virtual meeting that is to be executed. This planning consists of formulating a comprehensive registration and scheduling process, deciding the types of virtual sessions that will be held, the technological requirements of the event, and how the event will be funded. Some of the recommendations for this phase are:

- To ensure individualized robust registration processes for each participant, through technological planning.
- To ensure participant hardware registration to provide cybersecurity.
- To keep the duration and density of the meeting consistent.
- To take into account differences across time zones when planning plenary sessions. This includes being mindful to schedule breaks around mealtimes.
- To use web-based, modifiable and frequently updated meeting scheduling.
- To prepare a robust and comprehensive speaker support document to aid in adaptation of speakers' talks into high yield virtually deliverable presentations. It is recommended to focus on speaker and panelist preparedness, from a delivery and technological perspective.
- To ensure speakers have access to high-quality hardware, software and internet connectivity.
- To prepare a standardized slideshow template for speakers, allowing for branding and dissemination with a consistent and professional appeal.
- To highlight explicit hardware, software and connectivity recommendations early in the registration process.
- To define a concise attendee deliverable to set expectations and norms of virtual participation.
- To try to keep small group sessions of no more than 30 people in order to ensure engagement of participants.
- Mix of live and recorded content can be utilized to allow for scheduling and decreased facilitator and organizer burden.
- To allocate time and resources for both random and intended virtual social networking events throughout the conference to maintain participant satisfaction.
- Synchronous video conferencing is most effective if augmented by other forms of virtual collaboration, such as data and document sharing or real-time chat functions.
- To test technology and connectivity of speakers, moderators and facilitators in a 'dry-run' setting multiple times in advance.
- To count with a robust technological support, including support documents and live assistance.





PLANNING PHASE

According to Rubinger (2020) it is also important to keep in mind past experiences of meeting organizers to inform the choice of events included in their meetings. A simplified dichotomy on the different meeting types is available on Table 2.

MEETING TYPE	DEFINITION
PLENARY SESSIONS	Broadcast video communication channel that reaches a large audience is utilized; Supplemental concurrent or post hoc platforms to support topical discussion among participants.
PAPER/BREAKOUT SESSIONS	Run in parallel and can be grouped based on topic or theme; Can be run as pre-recorded lectures with discussions after with the keynote speaker, or as synchronous live events that are hosted and moderated.
WORKSHOPS /SMALL GROUP SESSIONS	Intended to target and facilitate even smaller and more intense group discussions that typically involve a presenter interacting with just a handful of participants; Have explicit norms that facilitators and attendees follow, as well they should be limited in size.
POSTER AND DEMO SESSIONS	Can be offered in a synchronous, asynchronous or blended fashion.
SOCIAL EVENTS	Arguably the most integral parts of providing a high-fidelity virtual conference; Participants value social networks developed from conferences in the academic and medical fields; The importance of providing and fostering social networking in the literature cannot be understated.

Table 12: Types of meeting events and their respective considerations

Source: Authors' elaboration





ACCOMPLISHING PHASE

After having laid the groundwork on the planning phase there are a great number of considerations about how virtual meetings should be executed, and these are covered over the **accomplishing phase**. Some of the recommendations for this phase are:

- To designate a host and moderator for every session planned to provide consistency and timing for meeting sessions. Organizers of the conference are generally responsible for 'hosting' the plenary and large group sessions. Hosting means initiating and then managing the live, synchronous sessions. Unlike hosts, moderators do not have technological responsibilities during the session. These participants of the live sessions, like in live conferences, are responsible for driving the live session along a planned theme and discussion.
- To foster engagement in small group sessions through means such as encouraging video by attendees to increase interactions, allowing for introductions and small talk at the beginning of the session, setting and display of the agenda, utilizing technology to build in polls, surveys, virtual whiteboards and trivia showing results in real time, and also working humour into the content of the session.
- To count with pre-recorded substitution sessions as a backup.
- To provide moderators and hosts with clear guidelines on how to deal with in event disruptions.
- To limit disruption and hacking of small group events, green rooms, random access codes and administrator monitoring of attendees.
- To give the option for speakers and content creators at the meeting to provide conference-goers with takeaway materials.
- To obtain consent from content creators prior to recording and making those recordings available after the meeting.
- To prepare a deliberate predetermined strategy to guide access to post-conference materials.



RESPONSE AND ENGAGE PHASE

Lastly, the **response and engage phase** of the conference cycle is important in ensuring the continued growth, development and continuous improvement of the virtual conference for the next cycle. Some of the recommendations for this phase are

- To collect explicit consent from participants and ensure all participants are aware when/if data is being gathered. Data gathering during the meeting should be as broad and thorough as possible.
- To conduct concise and not burdensome post-session and post-meeting evaluations by all participants.
- Data gathering, reporting, analysis and implementation should all be transparent to all stakeholders.
- Consent for data gathering, and possible utilization in research, should be obtained from the outset with ethics approval if necessary.

ISSUES TO CONSIDER - SECURITY AND PRIVACY ISSUES

While taking into account the above-mentioned recommendations, there are certain areas that require especial attention. This is the case of **security and privacy issues**, especially during and after COVID-19 times, where virtual conferencing platforms have experienced a sudden burst of use. As a result, virtual conferencing tools are suddenly drawing intense scrutiny, sometimes for flaws in security or privacy that had already been noticed by researchers in the past.

According to ACM (2020), any platform that enjoys substantial usage can become a target for attack, trolling, disruption, and surveillance. Many new videoconferencing users are not trained in using these technologies or in underlying principles of online security and privacy. In most cases, adoption is taking place quickly and out of necessity, without much opportunity to consider important issues such as security training, threats to privacy, impacts on vulnerable communities, or laws such as the European Union's General Data Protection Regulation (GDPR).

In some cases, platform features can imply a level of privacy that is not truly supported. For example, messages marked as private between attendees may appear in chat logs available to hosts, without the knowledge of participants. Participants may believe that virtual backgrounds will obscure private details on their surroundings, but the image process technology supporting virtual backgrounds can allow momentary views of the real background that can be isolated and examined in a recording.

Even though online platforms (i.e. Zoom) are already making rapid strides to address them, it is highly recommended for meeting organisers to ensure that meeting platforms comply with GDPR, and to create a safe environment for participants through regular checks from the organizer user account. If data is collected during the meeting or the video is being recorded, as mentioned above, it is a must to request for explicit consent from participants allowing for the activity to be conducted.

ISSUES TO CONSIDER - INTERNET CONNECTIVITY

There exist some requirements for participants that are taken for granted and that may disrupt virtual meetings. That is the case, for example of **internet connectivity**. For example, during the COVID-19 crisis, presenters had no choice but to present from home, where internet bandwidth and reliability could be significantly lower than at their workplaces.

Networks in some geographic regions may experience congestion that varies with the time of day, due to the increase in overall usage. According to ACM (2020), organizers need to plan for handling unexpected disruptions or severely reduced quality during a live talk. For example, as mentioned on the above recommendations, they may want to have a recorded version of the talk as a backup, in case the live presentation fails just before or during the presentation.

Another option is that presenters dial in by phone in addition to their video link, muting that backup connection until it is needed. In addition, presenters should be reminded to ensure that their home internet connectivity is not degraded by simultaneous use by other members of their household. Similarly, not all attendees may be able to watch live video reliably. Hence, providing downloadable content may be helpful. Most platforms allow to record sessions and store the recorded content in the cloud, with links for download that can be distributed across attendees.



ISSUES TO CONSIDER - HARDWARE

In addition to the internet connection, it is key for conference presenters to ensure their **hardware** are ready for the event (i.e. camera, built-in microphone, speakers, laptops or desktops).

According to ACM (2020), built-in microphones, especially on laptops, tend to eagerly pick up other ambient sounds besides the speaker's voice - keyboard typing, chairs squeaking, doors opening, dogs barking, etc. Furthermore, the built-in microphone and speakers, without echo cancellation, frequently result in feedback loops that ruin the experience for everyone. For this reason, it is important for presenters to look into buying, renting, or getting access to better hardware, perhaps with the help of their own institutions.

One of the above-mentioned recommendations is to conduct careful checks of the Audio/Visual setup ahead of time, and in particular making contingency plans if something fails during a live presentation. It can therefore be a good idea to ask presenters to understand how to use text chat channels to speak with the session organizers. They can also be asked to keep a phone handy in case they need to revert to calling in a phone line.

To overcome this technical barrier, a relatively affordable and effective option is to use headsets with embedded microphones. Earphones for smartphones generally work well, though presenters should be made aware of the noise they may introduce when they come in contact with clothes and hair. Gaming headsets are another alternative that avoids the problems of earphones as they are popular, not very expensive, and designed for being worn for several hours.

Other, more expensive, alternatives include noise-cancelling speakers or microphones designed to be used by podcasters, streamers, and vloggers. Another issue related to hardware is the lighting that the presenters use for their faces, as well as the angle of their camera.

Many people do not realize that strong light sources, such as a window, behind them will turn their faces dark and grainy. This is an issue that can be detected and mitigated during test sessions ahead of time.



ISSUES TO CONSIDER –THE NEED TO FOSTER SOCIAL INTERACTIONS

Finally, one of the issues flagged on the factors that influence the switch towards online meetings is the importance of social interactions on meetings. Informal, unstructured social interactions are one of the main reasons people travel to physical conferences, and one of the areas where people tend to believe virtual meetings are deemed to fall short. Common concerns are that there are no obvious opportunities for “hallway connections” while individuals do not seek for people to talk to if one of the conferences is not of their interest. Moreover, not restricting access to an exclusive group of registered participants may change the social contract. ACM (2020) provides a series of techniques to ensure participant engagement throughout virtual meetings, including plenary meetings, break-outs and networking.

At the most basic level, pairs or groups of individuals can be formed entirely by individual participants figuring out for themselves who they want to talk to. There are many specific mechanisms that might be used for this so many, indeed, that it may be helpful for conference organizers to decide on just a few to explicitly suggest. Below we highlight some of the key practices from ACM (2020) that can be helpful for conference organizers:

- Replace coffee breaks with “Chat roulette” where organizers randomly create sessions of 2-4 people. When someone decides they have had enough of one conversation, they can go back to the main room and choose a different group to join.
- Conferences using virtual worlds platforms can set up social rooms that can be used throughout the conference and encourage people to send messages to whatever chat system is being used when they are available to hang out and meet people.
- Invite participants to make a list of 4-6 people that they would have hoped to run into at the conference, then send emails to these people to schedule half-hour video chat sessions at some point during the conference.
- Organize “virtual lunch tables” where a senior member of the community is placed at a table and then can sign up to join the table for a certain length of time. Or consider a lunch model where participants are randomly assigned to tables, with the intent of having different groups for every meal.
- Consider chill-out corners places where people can just join and chit chat in some virtual places during the breaks, even with coffee in their (physical) hands or a drink.
- Provide a way for participants to advertise “sign-up sheets” (e.g., links to a Google Sheet with a list of open meeting slots and an invitation for others to fill in their name in the slot they want) that others can fill in to schedule one-on-one sessions.
- Consider spaces for speakers to meet each other, such as a “speakers’ lounge” room or a speakers’ session for introductions.
- Consider ways to highlight speakers to attendees, similar to speaker badges at physical conferences, and perhaps special breakout rooms for attendees to continue asking questions of a speaker after their talk.



We will explore this and more in the All-You-Need-To-Know Guide to Running ONE Meeting Projects which is a practical guide presenting a step-by-step strategy for converting projects into “ONE meeting only” format.



05

CONCLUSIONS FOR OUR BUSINESS CASE



CONCLUSIONS FOR OUR BUSINESS CASE

Climate change demands changing our current modes of living which have been demonstrated to put at a stake the sustainability of our planet. The effects of global warming are and will continue to affect a wide range of topics from global health to agricultural production. In this context, the European Union needs to ensure the sustainable continuity of its funded projects, including Erasmus+ projects. Whereas cross-country collaboration is needed and beneficial for society overall, transnational physical meetings across countries are nurturing global warming while exacerbating its negative effects. At the same time, the Covid-19 pandemic has served as an experiment to prove that online collaboration can be possible, and even as efficient as face-to-face interactions. In this respect, this Business Case aimed at providing evidence on both the huge environmental footprint of EU projects' meetings; and the benefits of switching to the "ONE Meeting Methodology" with only one meeting (ideally the kick-off meeting at the projects' beginning) being held face-to-face. At the same time, the report pinpointed best practices when conducting online meetings to overcome often identified hindrances with respect to physical meetings.

It has been argued that online meetings are less efficient because casual social interactions are less likely to occur; workers lack knowledge on the existing tools to conduct online meetings; fear to loss visibility and networking opportunities; or go against organizational culture. However, experts in the field have identified several good practices which could overcome these barriers to conduct optimal online meetings. For instance, several practices have been pointed out to increase conference participants' interaction among themselves such as replacing coffee breaks with 'Chat roulettes', organizing 'virtual lunch tables' or 'speakers' lounges' rooms. Others have suggested using polls, surveys, virtual whiteboards and trivia to foster engagement in small group sessions. On top of this, online meetings allow for a greater number of participants as individuals do not need to incur in costs or time losses due to travelling. Hence, online meetings and conferences can gain in diversity and include individuals from less represented and further located countries. In addition, there currently exist guidelines to prepare optimal online meetings in all phases from the pre-planning to the engagement phase. Some recommendations include the designation of a host and moderator for every session to provide consistency; to count with pre-recorded substitution session as a backup; or to ensure participants' hardware registration to guarantee cybersecurity.

This Business Case also provides evidence on the environmental footprint caused by European projects. More precisely, we provided the environmental cost in terms of CO₂ emissions for this project under two scenarios: (i) if it was to hold all its meetings physically (ii) or if having all online meetings except for one physical initial meeting. The results exhibit a difference of 10 tons of CO₂ emissions from the all-physical meetings scenario to the ONE meeting methodology. These findings were reinforced with the case studies provided by the different partners of the ONE Meeting Project. Notably, partners provided at least two case studies of EU projects they have been engaged in with several transnational meetings and compared the pollution cost by travelling to these meetings against a scenario where only one meeting was held. The findings show a huge environmental gain from switching to the ONE model for meetings. In general terms, if the 13 reported projects had counted with only one physical meeting, there would have been a reduction of 160.7 tons of CO₂ emissions. Therefore, switching to online meetings represents a huge environmental gain, and could even be regarded as a necessity amid the climate crisis. Furthermore, it has been demonstrated that online meetings can be as efficient as physical meetings while they even provide additional benefits.

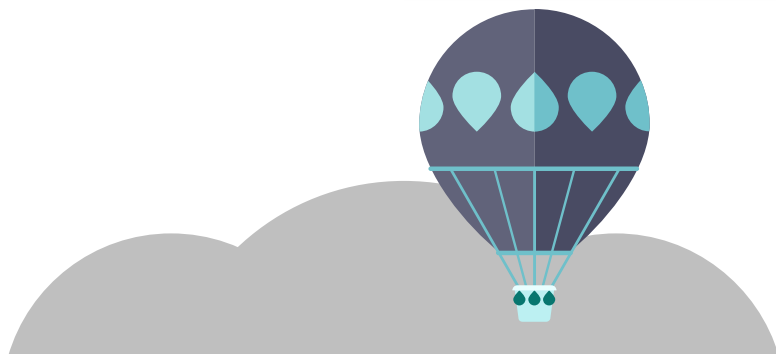
As we all work towards the Global Sustainable Development Goals, we are enthused by prospects remote work fueled by virtual and online meetings present. The benefits to project partner organisations, employees, the environment and Europe as whole are clear.

DELVE DEEPER INTO THE ONE MEETING METHODOLOGY

The ONE Virtual Toolkit offers practical guidance on how to integrate meeting, project planning, creativity and collaboration software and tools.

Both of these resources are available on www.theprojectone.eu

The All-You-Need-To-Know Guide to Running ONE Meeting Projects is a practical guide presenting a step-by-step strategy for converting projects into the ONE meeting format only.



ANNEX

RAPID EVIDENCE ASSESSMENT METHODOLOGY

In order to collect the most relevant evidence on the topic, a Rapid Evidence Assessment (REA) was conducted. According to the Rapid Evidence Assessment Toolkit index (Thomas, Newman & Oliver, 2013), a REA is a research methodology that provides an overview of existing research on a topic and a synthesis of the evidence provided by studies to answer a research question. Hence, REA lies between literature reviews and systematic reviews in terms of rigour of assessment while it is designed to be transparent and to minimise bias (Collins et al., 2015). The rationale for choosing this evidence review methodology lies in the fact that it can most readily be used to understand the impact either of a 'pressure' or a policy intervention without going too much into the details (Collins et al., 2015).

Additionally, REAs provide a general understanding of the volume and characteristics of the evidence available on a certain topic and make it more accessible for further scrutiny, if required. Hence, REAs allow questions to be answered by maximizing the use of the existing evidence base, whilst also providing a clear picture of the adequacy of that evidence (Collins et al., 2015). The full methodological approach is described in Table 13, and further explained below.

STAGE 1. PROTOCOL DEVELOPMENT

- Identify the research questions.
- Determine search terms and strategy to develop the initial pool of literature and sources to be searched.
- Define inclusion and exclusion criteria for studies (including time period and geographic area) and basic criteria against which documents will be selected (strength of evidence, relevance and level of academic).
- Set up information management processes, including bibliographic software to ensure clear recording of identified literature.

STAGE 2. IDENTIFICATION AND SELECTION OF THE RELEVANT SOURCES

- Develop the initial pool of literature.
- Review titles and abstracts against inclusion/exclusion criteria.
- Implement a snowballing approach by reviewing bibliographies of the identified literature for further sources.

STAGE 3. DATA EXTRACTION

- Review literature, identifying the relevant content, depending on the sub-task that needs to be fed, and assessing these against basic feasibility criteria.
- Extract, record and collate the relevant measures and associated contextual and background information where available using a standardised reporting tool.

STAGE 4. DATA ANALYSIS

- Analyse the results to understand themes and trends and inform selection of stakeholders to be involved in primary data collection activities.
- Synthesise and report the main findings of the review.

Table 13: Rapid Evidence Assessment methodological approach

As explained on the previous section, the objective of this study is to show how virtual meetings can be more engaging, productive and efficient and are also able to reduce the environmental impact of transnational partners meetings.

THE REA WAS DESIGNED TO PROVIDE THE RESEARCH TEAM WITH SOUND EVIDENCE TO ANSWER THE FOLLOWING RESEARCH QUESTIONS:

- Which are the main advantages and disadvantages of face-to-face meetings (and remote meetings) in relation to the environmental footprint?
- Which are the best methodologies to conduct virtual meetings? Which are the best practices in place to conduct efficient virtual meetings? Which technologies enable them?

The search terms are the key words and phrases selected to be used in the databases (ISI Web of Science and Google Scholar) to identify relevant sources and documents that inform the abovementioned research questions. The set of terms and search strings used for the present study are listed on Table 2.

RESEARCH QUESTIONS	TERMS
Which are the main advantages and disadvantages of face-to-face meetings (and remote meetings) in relation to the environmental footprint?	Environmental footprint OR carbon footprint OR greenhouse gas emissions OR environmental impact AND virtual meeting OR remote meeting OR online meeting OR face to face meeting OR f2f meeting
Which are the best methodologies to conduct virtual meetings? Which are the best practices in place to conduct efficient virtual meetings? Which technologies enable them?	Virtual meeting OR remote meeting OR online meeting OR face to face meeting OR f2f meeting AND methodology OR best practice OR behaviour OR pattern

Table 14: Search strings to identify resources on the proposed research questions

REAs are carried out more speedily than systematic reviews while they are not less rigorous when it comes to determining conceptual boundaries. Therefore, the inclusion criteria for the present study involved (i) publications that fed the research questions guiding the present study, (ii) documents that were published after 2010, and that (iii) were available in English. Exclusion criteria was applied to publications that did not inform our focus of study directly or did not provide robust evidence on the topic.

The REA involved the identification of core literature, to subsequently conduct a snowballing exercise. The snowballing research technique involved reviewing the bibliographies of the most relevant articles and reports to identify further relevant literature.

In addition to the scientific publications retrieved from the literature review, works and publications from “grey” sources were also identified, including but not restricted to official reports, academic research, commercial communications and marketing materials, or expert blogs. As for the grey literature, there exists no ‘gold standard’ for rigorous systematic search methods while few resources are available on how to conduct this type of search.

To achieve a comprehensive review, grey literature is an important element and can be developed in two steps: (i) identification of sources in which to search and (ii) screening of sources, locating relevant studies and publications in these sources.



THE GREY LITERATURE SEARCH PLAN WILL INCORPORATE THREE DIFFERENT, ALTHOUGH OVERLAPPING AND INTERRELATED, SEARCHING STRATEGIES:

- Customized Google search engines. The first search strategy involves conducting Google searches for documents published on the Internet. Searching on Google can be overwhelming due to the vast amount of information and the lack of a consistent structure across websites. Nonetheless, customized Google search engines can be explicitly developed to narrow the search results to a specific subject area and/or website, allowing for a more refined and targeted searching. We will follow a scientific-standard search strategy that includes the combination of the identified search terms, for which all results will be screened for eligibility. The search terms will be decided based on the results from the scoping review, as this exercise aims at covering the potential gaps from the review on scientific databases.
- Institutional websites. The third search strategy involves navigating through all the relevant institutional websites to collect relevant information.
- Snowballing from identified literature. The last search strategy involves reviewing bibliographies of key literature (including existing literature reviews and key national reports) to identify further relevant literature.

Summary data for all relevant literature to be reported was closely linked with the initial aims and research questions guiding this REA. The use of the data extraction template ensured the REA remained focused, and that information from diverse sources was collated in a manner to facilitate a clear comparison across the literature and to identify emerging themes.

The free text structure of the template implies that information relevant to the objectives can be added whether this relates to a specific practice or intervention (e.g. an evaluation report) or a general overview (such as a foresight study).



BIBLIOGRAPHY

BIBLIOGRAPHY

- Arnfalk, P.; & Kogg, B. (2003). Service transformation - Managing a shift from business travel to virtual meetings. *Journal of Cleaner Production*, 11(8): 859-872.
- Arnfalk, P.; Pilerot, U.; Schillander, P.; Grönvall, P. (2016). Green IT in Practice: Virtual Meetings in Swedish Public Agencies. *Journal of Cleaner Production*, 123: 101-112.
- Association for Computing Machinery (ACM) (2020). 'Virtual Conferences: A Guide to Best practices'. Retrieved from: https://people.clarkson.edu/~jmatthew/acm/VirtualConferences_GuideToBestPractices_CURRENT.pdf [Accessed 10 December 2021].
- Buchal, R. & Songsore, E. (2019). Using Microsoft Teams to Support Collaborative Knowledge Building in the Context of Sustainability Assessment. Proceedings of the Canadian Engineering Education Association (CEEA). 10.24908/pceea.vi0.13806.
- Burtscher, L.; Barret, D.; Borkar, A.P.; Grinberg, V.; Jahnke, K.; Kendrew, S.; Maffey, G.; & McCaughrean, M. J. (2020) The carbon footprint of large astronomy meetings. *Nature Astronomy*, 4: 823–825.
- Ciers, J.; Mandic, A.; Toth, L.; & Veld, G. (2018). Carbon Footprint of Academic Air Travel: A Case Study in Switzerland. *Sustainability*, 11(1): 80.
- Collins, A.; Coughlin, D.; Miller, J.; & Kirk, S. (2015) 'The production of quick scoping rapid evidence assessments: a how to guide'. Joint Water Evidence Group, December 2015. UK Department for Environment Food & Rural Affairs.
- Diethart, M.; Zimmermann, A.; & Mulà, I. (2020). 'Guidelines for Virtual Conferencing – inspired by the COPERNICUS Alliance Online Conference 2019'. European Network on Higher Education for Sustainable Development.
- European Commission (2021) 'Erasmus+ Programme Guide 2021 (Version 2)'. Retrieved from: <https://erasmus-plus.ec.europa.eu/document/erasmus-programme-guide-2021-version-2> [Accessed 10 December 2021].
- Fauville, G.; Luo, M.; Queiroz, A. C. M.; Bailenson, J. N.; & Hancock, J. (2021). Nonverbal Mechanisms Predict Zoom Fatigue and Explain Why Women Experience Higher Levels than Men. *SSRN Electronic Journal*.
- Jay, R. (2019). 'UN's Sustainable Development Goals Initiative and Remote Work'. Retrieved from: <https://www.flexjobs.com/blog/post/un-sustainable-development-goals-remote-work/> [Accessed 10 December 2021].
- Jost, F.; Newell, R.; & Dale, A. (2021). CoLabS: A collaborative space for transdisciplinary work in sustainable community development. *Heliyon*, 7(2): e05997.
- Lindeblad, P. A.; Voytenko Palgan, Y.; Mont, O.; & Arnfalk, P. (2015). Organisational Effects of Virtual Meetings. *Journal of Cleaner Production*, 123: 1-11.
- Ndegwa, N.; Fatumo, S.; Ngara, M.; Chelbat, N.; Ramdayal, K.; Opap, K.; Siwo, G.; Adebisi, M.; Gonnouni, A.; Zofou, D.; Maurady, A.; Adebisi, E.; de Villiers, E.; Masiga, D.; Bizzaro, J.; Suravajhala, P.; Ommeh, S.; & Hide, W. (2010). Ten Simple Rules for Organizing a Virtual Conference—Anywhere. *PLOS Computational Biology*, 6 (2): e1000650.
- Raby, C. & Madden, J. (2021). Moving academic conferences online: Aids and barriers to delegate participation. *Ecology and Evolution*, 11(8): 3646-3655.
- Remmel A. (2021). Scientists want virtual meetings to stay after the COVID pandemic. *Nature*, 591(7849): 185–186.
- Roos, G.; Oláh, J.; Ingle, R.; Kobayashi, R.; & Feldt, M. (2020). Online conferences – Towards a new (virtual) reality. *Computational and Theoretical Chemistry*, 1189 (2): 112975.
- Rowe, N. (2018). 'When you get what you want, but not what you need': The motivations, affordances and shortcomings of attending academic/scientific conferences. *International Journal of Research in Education and Science*, 4(2): 714–729.
- Rubinger, L.; Gazendam, A.; Ekhtiari, S.; Nucci, N.; Payne, A.; Johal, H.; Khanduja, V.; & Bhandari, M. (2020). Maximizing virtual meetings and conferences: a review of best practices. *International orthopaedics*, 44(8): 1461–1466.
- Spilker, M. J.; Prinsen, F.; Kalz, M. (2019). Valuing technology-enhanced academic conferences for continuing professional development. A systematic literature review. *Professional Development in Education*, 46: 1-18.
- Taklan, A.; Rezaei, N.; Hanaei, S.; Maboloc, C. R.; Milošević, M.; Vasconcelos, C. (2020). Emerging Standards and the Hybrid Model for Organizing Scientific Events During and After The COVID-19 Pandemic. *Disaster Medicine and Public Health Preparedness*: 1-6.
- Thomas, J.; Newman, M.; & Oliver, S. (2013). Rapid Evidence Assessments of research to inform social policy: taking stock and moving forward. *Evidence & Policy: A Journal of Research, Debate and Practice*, 9(1): 5-27.
- United Nations Environment Programme (2019). 'Emissions Gap Report 2019'. UNEP, Nairobi.
- United Nations (2015). 'Transforming our World: The 2030 Agenda for Sustainable Development'. Retrieved from: <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20we> [Accessed 10 December 2021].
- Thiede, B.; Greiman, L.; Weiler, S.; Beda, S. C.; & Conroy, T. (2017) 'These 6 charts show the divide between rural and urban America'. World Economic Forum. Retrieved from: <https://www.weforum.org/agenda/2017/03/these-6-charts-show-the-divide-between-rural-and-urban-america> [Accessed 10 December 2021].
- Veldhuizen, L.; Slingerland, M.; Barredo, L.; Giller, K. (2020). Carbon-free conferencing in the age of COVID-19. *Outlook on Agriculture*, 49(4): 321-329.



The ONE Meeting Project is exploring the role online collaboration can have in future EU projects and how we can use it to work in a smarter, greener and more sustainable way.

www.TheProjectOne.eu



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