



## Deliverable

### D7.1 Enhanced Communication, Dissemination & Exploitation Roadmap

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# Executive Summary

This deliverable provides a framework for maximising the impact of DUET's results. The overall ambition is to scale them beyond the project lifetime so as to provide commercial and non-commercial opportunities for long-term success.

At the core of the Roadmap are three classic activity tracks: communication, dissemination and exploitation. By including all these activities in a single document, we ensure complementarity between the individual streams, enabling them to work in unison to achieve future sustainability and a lasting impact.

The Roadmap targets specific groups who can influence or will be influenced by DUET's objectives and actions - in other words, groups that will have an interest in the project. The main identified groups are Users, Enablers and Influencers.

Users are stakeholders who will apply DUET's tools and results to achieve specific objectives. They can be public administrations that will use digital twins for policy planning or service providers who want to include digital twins as part of their value offering.

Enablers include data or infrastructure owners who can support the functioning of digital twins. To create a digital replica of a city, you need a lot of data. While public administrations sit on large swathes of information, they don't control all data sources within their jurisdiction. Often it is private operators who possess domain specific datasets in niche areas like ANPR (Automatic Number Plate Recognition) and electromagnetic communications. To succeed, DUET will need to bring together data owners from both the public and private sector.

Last but not least, Influencers are people with the ability to change the direction of the project. For DUET these include politicians, media, expert communities and various thematic networks focusing either directly or indirectly on digital twins.

To ensure consistent outreach to these groups throughout the project, the Roadmap will be implemented along three tracks. Track One (pilot level communication) will focus on encouraging local stakeholders to validate the solution and provide concrete impact evidence for continuous use and adoption by new customers. Engagement at this level will target Users, Enablers and Influencers. Track Two (European level dissemination) will focus on showcasing project achievements and findings to identify potential adopters and policy areas for new DUET instances. Engagement at this level will mainly target national and European Influencers. Track 3 (commercial and non-commercial exploitation) will focus on understanding the market and the needs of potential adopters to ensure DUET is fit for commercialisation. Engagement here will target Users, Influencers and Enablers.

To manage each of the tracks in an effective way, whereby inputs and outputs of each process support one another, DUET will adopt and adapt a traditional sales and marketing funnel framework. The framework works on the basis that the first stages of communication should focus on raising Awareness and Interest in the DUET solution through its initial research and piloting activities. As the impact evidence builds, the project then moves into a phase that creates Desire for the DUET solution by showcasing the actual benefits, before finally

transitioning into an Action or 'Sales' stage where stakeholders are taking up DUET outside of the pilot network. Due to its commercial focus, the sales stage is only applied to the exploitation track.

To find out whether our Roadmap is effective, the communication team will deploy a comprehensive evaluation strategy for measuring the impact of roadmap's activities. This will include both quantitative and qualitative KPIs. The former will consider metrics such as events attended, website visits, clicks, downloads, social media clout and publications, to name just a few. Qualitative evaluation, for its part, will assess the Roadmap's performance across five indicators: relevance, clarity, timeliness, efficiency and openness.

To conclude, the consolidated Roadmap is a creative and continuous process. It will span the entire funding and post-project period (the latter thanks to the exploitation plan). New ideas for engagement that will arise over the course of the project will be assimilated into new versions of the Roadmap. The extent to which Roadmap is effective will ultimately depend on partners working together as a team toward a common vision. The WP7 team will support individual communication, dissemination and exploitation efforts by releasing the Kit for Partners at regular intervals. The Kits will contain guidance and materials for scaling awareness about the project and its results. The first version is appended to this deliverable and can be used right away. Along with the Kit for Partners, updated messages and dissemination collateral (brochures, flyers, videos, etc.) will be provided.

# 1. Introduction

This deliverable has a simple, if ambitious, objective: to ensure the maximum impact of DUET's outputs so that main results can scale beyond the project lifetime, providing sustainable market and technological opportunities for long-term success.

At the core of the Roadmap are three classic activity tracks: communication, dissemination, exploitation. These terms are often used interchangeably, especially communication and dissemination, but they actually refer to quite different methods. As explained by the European Commission: <sup>1</sup>



**Communication** means taking strategic measures to promote the action to a multitude of audiences, including the media and the public, and possibly engaging in a two-way exchange. The aim is to reach out to society as a whole and in particular to some specific audiences while demonstrating how EU funding contributes to tackling societal challenges



**Dissemination** is the public disclosure of project results via any medium. The aim is to make research results known to various stakeholder groups (e.g. scientific community, public sector, commercial actors, professional organisations, policymakers) in a targeted way to enable them to use the results in their own work



**Exploitation** is the use of project results during and after the funding period. It can be done for commercial purposes but also for improving policies, and for tackling economic and societal problems (non-commercial exploitation).

To better understand the difference, imagine a project that has just started. At the kick-off, partners tweet about it, sharing their ambitions and how they plan to achieve them. Since there are no results to promote, this activity falls under communication. As soon as the first results become available (e.g. a new app is created, survey findings are published), it's time to activate the dissemination tactics. This can include anything from running a demo at a conference to publishing a research paper in a respected journal. When doing dissemination, what's important is that i) the chosen channel/medium fully illustrates the benefits of project results and ii) you are pitching the solution to the right audience i.e. someone who might have a need for it now or in the future. Then, for example, the solution can be used at a hackathon to create new public services (non-commercial exploitation) or included in the product portfolio of a technical partner after the project (commercial exploitation).

By including all these activities in a single roadmap, DUET ensures that project's innovative promotional strategies and tactics within each of these streams will be complementary, working efficiently together to achieve future sustainability and a lasting impact.

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<sup>1</sup> <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/faq/933>

## 1.1 Expected results

DUET will help the public sector become more democratic and effective, both in the short and long term, through the development and use of Digital Twins for policy impact exploration and experimentation in entire cities and regions. Local decision making, technology and data standards are the three areas where DUET will make the most impact.

- **Local decision making:** Authorities of any size and digital maturity will use DUET's cloud-based, AI-enabled solution to make the most of city's data for smart and collaborative policy making
- **Technology:** Leveraging cloud and HPC, DUET connects physical and digital systems to facilitate new discoveries through city-wide exploration and experimentation.
- **Data standards:** Thanks to strong focus on interoperability and portability, DUET advances global standards for data management at city-level, enabling a digital twin to be set up in one click for systemic policy impact exploration and experimentation.

## 1.2 Objectives

To create a successful roadmap, it's important to understand the end goals to be achieved. DUET has a clearly defined set of objectives and the specific ones related to Dissemination, Communication and Exploitation are as follows:

- Support local administrations in Flanders, Pilsen and Athens in advancing public-policy priorities using the DUET framework and tools
- Package digital twin technology, techniques, lessons learned for potential adopters, enabling them to learn from DUET and set up similar solutions with minimal development effort
- Refine the learning content through face-to-face training to be organised at major European conferences (e.g. IoT Week, SCEWC), during which members of our target audience will be invited to test the DUET solution while trying to solve common data related challenges faced by cities
- Create a sustainability model that allows partners to enhance their product and services portfolio through DUET's apps, software, platform and data (commercial exploitation) and, at the same time, lets the project's intangible assets (case studies, training material etc.) generate impact long after the end of the project (non-commercial exploitation)
- Develop success stories from the experience of pilot sites, highlighting the various operational and strategic benefits of using the DUET solution as a means to incentivise adoption by new cities

## 1.3 Target Groups

Target groups are users (individuals, groups, organisations) who can influence or are influenced by the project's objectives and actions, and therefore have an interest in DUET. According to our definition, target groups are not mere passive recipients of results but rather actors who participate in the project through the available co-creation opportunities. Additionally, they are keen to use project outcomes and have the means to generate future market uptake of DUET's results. The basic premise behind the target group analysis is the fact that different groups have different concerns, capacities and interests. What do they think now? What do they care about? What do we want them to think? All these needs must be well understood and recognised in order to:



- (1) Ensure direct involvement of the identified target audiences, as well as a wide dissemination/communication reach to other possible stakeholders;
- (2) Help ensure that relevant and proper dissemination and communication actions are formulated to meet the specific communication needs of these audiences.

DUET has identified a range of target groups for the project which we would like to engage, inform and/or influence:

- **Users:** These are the people who will use DUET's tools and results to achieve specific objectives. They can be public administrations who will use digital twins for policy planning or service providers that include digital twins as part of their value offering
- **Enablers:** To this group belong data or infrastructure owners who can support the functioning of digital twins. To create a digital replica of a city, you need a lot of data. While public administrations sit on large swathes of information, they don't control all data sources within their jurisdiction. Often it is private operators who possess domain specific datasets in niche areas like ANPR, electromagnetic communications. To succeed, DUET will need to bring together data owners from both the public and private sector.
- **Influencers:** These are the people who have the ability to change the direction of the project. For DUET these include politicians, media, expert communities and various thematic networks focusing either directly or indirectly on digital twins.

## 2. Stakeholder analysis

### 2.1 Stakeholder Management

As touched upon in the previous chapter, in order to create a clear, compelling and effective roadmap, it is important to know the preferences of individuals, groups and organisations that will be engaged during the project. Stakeholders can be broadly defined as anyone with an interest, either professional or personal, in the project and who will be impacted by the results either positively or negatively.

According to PMI<sup>2</sup> (Project Management Institute) there are four standard processes for successful stakeholder management:

1. **Identify Stakeholders** - It is important to identify powerful and influential stakeholders as early as possible in the project. As their word carries a lot of weight, they might request changes which may impact the project and cause significant delays
2. **Plan Stakeholder Management** – Stakeholders should be seen as an asset or as a problem to a project and an effective relationship should be maintained
3. **Manage Stakeholder Engagement** – Stakeholder engagement should be proactive and take into consideration all their needs and requests
4. **Control or Measure Stakeholder Engagement** – Assessing stakeholder engagement helps ensure its effectiveness

In the following subsections, we will describe each of these four steps in more detail.

#### Step 1: Identify Stakeholders

At the consortium's kick-off meeting, partners were asked to share their thoughts on the potential target audience. Below is a word cloud generated from the submitted responses.



*Figure 1. Word cloud of DUET's target audience: input from the visioning session*

<sup>2</sup> <http://www.pmi.org/default.aspx>

Working jointly with imec as part of T2.1 Policy Value Network Analysis, the WP8 team will start populating the main stakeholder categories (Users, Enablers, Influencers) with the actual names based on research results and outreach efforts.

## Step 2: Plan Stakeholder Management

In order to better target the identified stakeholders, we have broadened the three categories and mapped their needs against different areas of interest. This is done to help us craft communication material that is meaningful and relevant to the role of each target group.

*Table 1. Stakeholder mapping*

Stakeholder		Scenario simulation	3D modeling	Policy impact	Internet of Things	ML & AI	Mathematical models	Policy co-creation	Digital twin	Smart Cities	Digital twin
Users	Local administration			X				X		X	X
	Other authorities <sup>3</sup>	X		X	X			X		X	X
	Service providers	X	X		X	X	X		X		
Enablers	Private data owners				X	X				X	
	Public data owners			X				X		X	X
	Infrastructure owners	X	X		X				X		
Influencers	Politicians			X				X		X	X
	Local & EU media			X						X	X
	Expert community	X		X		X	X		X		
	Thematic networks		X		X					X	

<sup>3</sup> This category includes higher level authorities (e.g. regional administration), government agencies and ministries etc.

The results of preliminary mapping show a wide range of interests that DUET can cater to. Public sector users are keen to know about the impact of new or existing policies. They are also interested in policy co-creation, the concept of smart cities and digital twin case studies. Private sector users (service providers) have more technical interests e.g. simulations, modeling, machine learning, artificial intelligence, digital twin standards.

In the enablers camp, public data owners exhibit similar interests as public sector users. Private data owners would like to see the big picture (i.e. the Internet of Things) and how they can contribute to the data ecosystem on a local/regional level. Additionally, they are interested in novel methods and algorithms for processing data, particularly that obtained in real time. Infrastructure owners have a similar interest in seeing the big picture i.e. how their objects connect to the wider ecosystem. They would also like to know how their assets can cope under different conditions; hence the interest in 3D modeling, scenario simulations and standards.

When it comes to influencers, politicians and journalists tend to have many overlapping interests. Both are interested in smart cities and the related case studies. Both would like to know how existing policies are performing or what the impact of new measures might be. Other stakeholders in the influencers camp have more technical interests that cover everything from modeling and simulations to machine learning and artificial intelligence.

### Step 3: Manage Stakeholder Engagement

A number of tactical measures have been developed to address specific needs and interests of DUET's target audience, ranging from online (website, social media, newsletters etc.) to paper-based (journal articles, policy briefs, book etc.) to face-to-face (workshops, presentations, networking etc.). Next to each measure we provide associated KPIs to help us track performance and the relevant target groups.

*Table 2. Tactics for stakeholder outreach*

Description		KPI	Group
<b>Website</b>	<ul style="list-style-type: none"> <li>Create a general dissemination website with additional pages and material for specific audience groups. Update it with results and achievements during the entire project period.</li> <li>Complement information with interwoven tools such as social media, newsletters, project results as well as presentations and other audience videos and specific publications.</li> <li>The website will contain information relating to the project, its partners, objectives, deliverables etc.</li> </ul>	Website traffic as measured through Google analytics e.g. unique visitors, countries, gender	Users, Enablers, Influencers
<b>Social Media</b>	<ul style="list-style-type: none"> <li>Use social media (Twitter, YouTube) to engage with the world, inform about the project, its results, forthcoming events; gather feedback</li> <li>DUET will set up and maintain other more specialised social media channels for specific audiences (e.g. ResearchGate) and will connect to</li> </ul>	Quantified and qualified social media analysis, number of retweets, shares, likes, mentions,	Users, Enablers, Influencers

	and influence ongoing conversations in particular areas of digital twins, IoT, city simulations and policy discussions related to urban planning and smart cities. Where possible the social channel will be linked with the project website via social media share buttons.	listings, followers. Klout score	
<b>Training</b>	<ul style="list-style-type: none"> <li>The Consortium will use the training to attract new users, early adopters and encourage public administrations to embed the DUET framework in their daily operations, and offer commercial incentives to use its tools. In order to maximize the participation at the training, it will be offered for free and in conjunction with well-known European conferences to upskill public administrations in using digital twins for urban policy-making. Another form of training could be an online course (MOOC)</li> </ul>	No. of trainees, feedback from post-event surveys	Users, Influencers
<b>Newsletters</b>	<ul style="list-style-type: none"> <li>Regular newsletters (linked to milestones) provide an opportunity to offer already engaged stakeholders with an update of project activities, remind them of the benefits of DUET and encourage them to stay involved or participate in any new tasks that we need input for.</li> </ul>	No. newsletters sent, emails opened, links opened and other stats provided by Mailchimp	Users, Enablers, Influencers
<b>Press releases</b>	<ul style="list-style-type: none"> <li>Press Releases will be used to attract favourable press coverage of the project and its results and to boost the success of the pilots and the project as a whole.</li> </ul>	No. press releases distributed, news outlets publishing the release or mentioning DUET	Users, Enablers, Influencers
<b>Brochures</b>	<ul style="list-style-type: none"> <li>Leaflets and other hard copy communication tools will be useful to disseminate the project information succinctly and clearly to different audiences at specific events, conferences and other outreach opportunities.</li> </ul>	No. events where the brochures were distributed	Users, Enablers, Influencers
<b>Roll-up banners</b>	<ul style="list-style-type: none"> <li>Displaying eye-catching posters at prominent events is a convenient way of grabbing attendees' interests and giving them a call to action e.g. attend a workshop, visit the website.</li> </ul>	No. events where the banners were distributed	Users, Enablers, Influencers
<b>Conferences</b>	<ul style="list-style-type: none"> <li>Events organised by the consortium streamlined towards the various smart city domains (e.g. CCCC) as well as a wide range of external fairs and conferences e.g. Global Forum, SCEWC, Major Cities Europe, Digital Twin conference.</li> </ul>	No. presentations given and papers/workshop/poster proposals accepted, attendees	Users, Influencers

<b>Goodies</b>	<ul style="list-style-type: none"> <li>These are pens, stickers, coasters, badges etc. that are effective at raising awareness about the project in a fun and engaging way.</li> </ul>	No. events where stickers were distributed	Users, Enablers, Influencers
<b>Publications</b>	<ul style="list-style-type: none"> <li>With regards to the academic community, DUET's research partners (imec, KU LEUVEN, TNO, P4A) intend to disseminate the results of the project via the publication of articles and submission of technical papers in specialized press, magazines, newspapers and journals.</li> </ul>	No. papers, publication types, countries covered, audience reached	Users, Influencers
<b>Clustering</b>	<ul style="list-style-type: none"> <li>Sharing lessons learned with projects and initiatives in the growing digital-twin community will ensure DUET doesn't reinvent the wheel but rather builds upon the results of others in the field.</li> <li>Clusters will include cross-project activities with other EU funded initiatives such as IoTwins, Sphere, DTWIN, as well as networking with European associations and networks such as Open and Agile Smart Cities, FutureCities catapults etc.</li> </ul>	No. networks, projects, lessons shared, joint meetings and events held, signed MoU	Users, Influencers
<b>Audio Visuals</b>	<ul style="list-style-type: none"> <li>The production of a professional animated DUET video for informing and engaging users will be published on the website and used at conference exhibitions, training workshops and event presentations.</li> <li>The core aim of the video is to explain the somewhat complex undertakings to the widest possible audience. This professional video will be supplemented with short Vox pops and consortium made films to support more specific exploitation opportunities.</li> </ul>	No. views, number of shares, mentions, listings	Users, Enablers, Influencers

Given that DUET is European in scope, members of the consortium will have to be active in the language of the country they are representing. The main language for the website and dissemination material will be English but partners are welcome to provide material and website translations in their own language to make project content more accessible.

## Step 4: Control or Measure Stakeholder Engagement

Stakeholder engagement is a continuous process that will be supported by regular communication through social media and targeted email campaigns. In order for the project to run as smoothly as possible, several tools for control and measurement have been put into practice: an online monitoring sheet, a marketing kit for partners and analytics of website traffic.

### Stakeholder & Dissemination Database

This GDPR compliant [tool](#) is a simple to use Google Spreadsheet that can be accessed anytime, anywhere and can be easily updated by all partners. The aim is to keep track of various dissemination and communication activities relevant to the project, and to keep abreast of the different cooperation opportunities across Europe. The database contains the following sections (one per sheet):

- *Clustering & Knowledge Sharing*: It includes possible projects with which DUET could team-up in order to participate in the Common Dissemination Booster programme promoted by the EC. These can also be projects with which DUET can run joint workshops or share exhibition space at European conferences.
- *Partner Events*: It provides details (date, location, cost, deadlines etc.) of past and future events where DUET was/could be disseminated. When reporting their activities, partners need to include the name, date, location and description of the event; how many participants were present; what exactly the partner did (e.g. presentation, networking, workshop moderation); and any comment as to the outcome (e.g. new cities willing to test the framework).
- *Partner Publications*: It shares the details of published material where DUET has been mentioned. Preference is given to external sources and mediums such as journal articles, book chapters, conference proceedings, news articles, blogs and press releases.

All partners should fill in the relevant sections of the database in order to ensure that no information is forgotten in the technical or work package report.

### Marketing Kit for Partners

This is a mini-communication and dissemination plan released at each key project phase. It provides in one document access to all the existing material (presentations, flyers, graphics etc.) and messages that partners can use to scale awareness of DUET. The Kit for Partners ensures consistent messages per stakeholder group, in line with the findings from the Stakeholder Analysis Matrix, with a visual look and feel to promote the project, build brand recognition across Europe and help meet the current needs of DUET. Such coordination will amplify the impact of each individual posting and awareness raising activity. Moreover, the approach ensures that all stakeholders, regardless of location, receive the same information and are not privileged in any way.

### Analytics

Google Analytics will be used to measure the engagement, distribution and behaviour of the stakeholders on the DUET website<sup>4</sup> to see which communication and dissemination tactics are most effective at driving stakeholders to specific information/actions.

Mailchimp Analytics will also be used to understand stakeholder interactions with our newsletters, helping to determine which points and items are of most interest. Stakeholder engagement will be a continuous monitoring process. Local engagement in the city pilots will be monitored by the pilot partners through their existing channels.

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<sup>4</sup> [digitalurbantwins.com](https://digitalurbantwins.com)

An additional way of controlling stakeholder engagement will be by checking regularly if new persons register on the website i.e. subscribe to the newsletter. The check will be done to see if the number of registered persons increased, in which case the outreach is working as planned. If the number of new registrations is low and this trend continues for some time, 21c will investigate the problem and take an appropriate corrective action.



### 3. Overall Strategy

The previous chapter outlined DUET's target audience and provided a palette of tactics that can be used to engage the identified stakeholder groups. The aim of this chapter is to provide an overarching strategy to ensure consistent outreach throughout the project on different levels: local and European, commercial and non-commercial. The strategy will be implemented along three tracks



**Track 1 - Pilot level communication:** This track will focus on encouraging local stakeholders to validate the solution and provide concrete impact evidence for continuous use and adoption by new customers. Engagement at this level will target Users, Enablers and Influencers. Key objectives include:

- Support public authorities in using digital twins for evidence based urban development
- Encourage data and infrastructure owners to become part of the local IoT ecosystem and unleash city-wide innovation
- Enhance the concept of smart city by making it even more citizen centric and environmentally sustainable



**Track 2 - European level dissemination:** This will focus on showcasing project achievements and findings to identify potential adopters and policy areas for new DUET instances. Engagement will mainly target national and European Influencers. Key Objectives include:

- Cluster with relevant projects in the IoT, Digital Twins and Smart City fields to identify shared opportunities for knowledge exchange and growth
- Offer free training to other cities as a way of attracting and gaining access to potential future customers whilst establishing the validity of DUET tools
- Identify and attract new potential adopters who will take up the digital twin framework and technologies



**Track 3 - Commercial and non-commercial exploitation:** This track will focus on understanding the market and the needs of potential adopters to ensure DUET is fit for commercialisation. Engagement will target Users, Influencers and Enablers. Key Objectives include:

- Creation of a business model and plan based on real market needs and drivers
- Packaging of a commercially viable product
- Deployment of the go-to-market strategy

To manage each of the tracks in an effective way, where the inputs and outputs of each process support one another, DUET will adopt and adapt a traditional sales and marketing funnel framework. The framework works on the basis that the first stages of communication focus on raising Awareness and Interest in the DUET solution through its initial research and piloting activities. As the impact evidence builds, the project then moves into a phase that creates Desire for the DUET solution by showcasing the evidenced benefits, before finally transitioning into an Action or 'sales' stage where stakeholders are taking up DUET outside of the pilots. Due to its commercial focus, the sales stage is only applied to the exploitation track.



Figure 2. Traditional sales and marketing funnel levels

Each track in the Roadmap is designed to ensure that pilot level achievements and outputs feed into wider European level dissemination efforts, creating a cascading sales effect to stimulate demand and adoption of the DUET results. The following subsections will outline the high-level strategy for each of the work tracks.

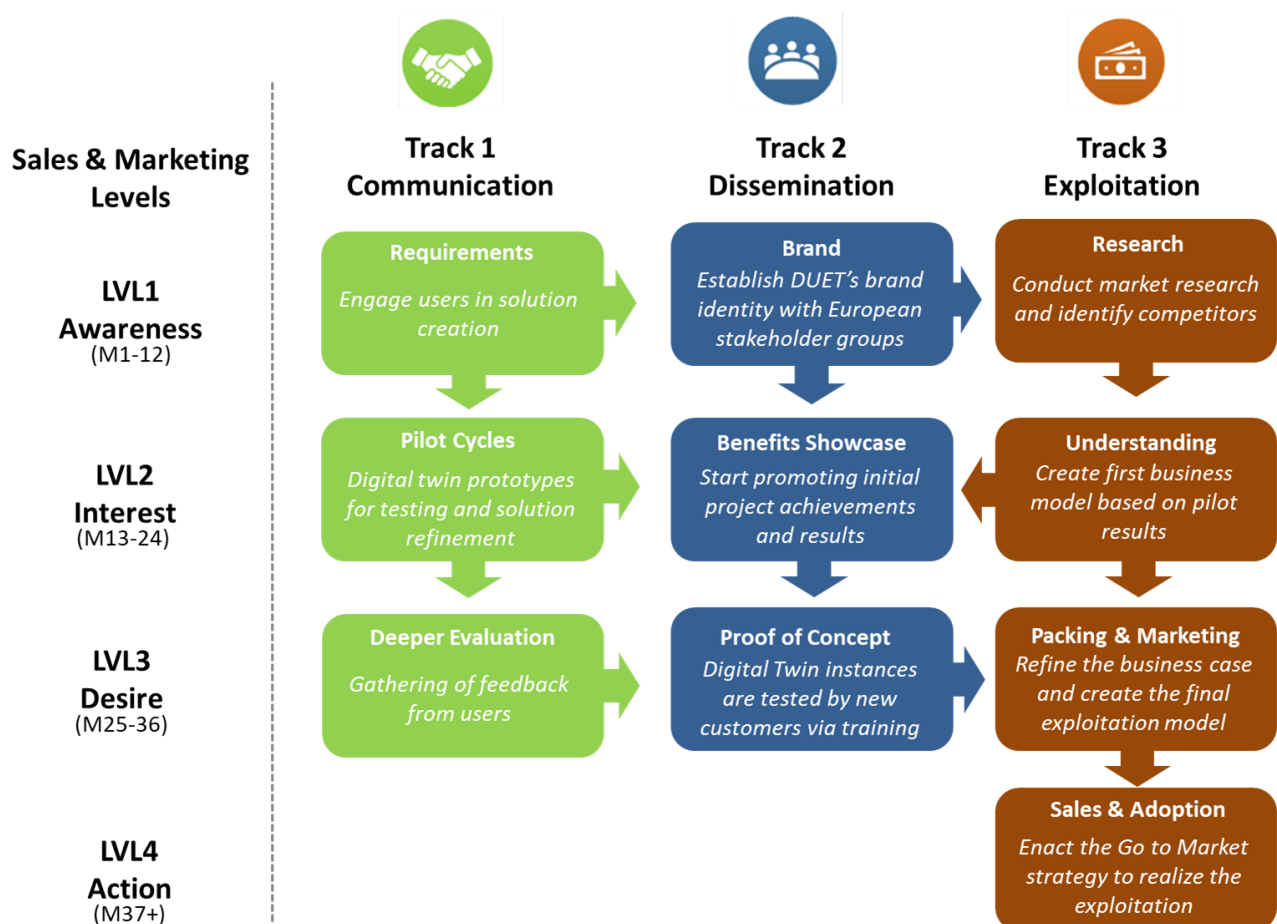


Figure 3. Roadmap strategy overview

## Track 1: Specific Communication

On this local level, the communication activities are framed around the development of activities to help pilots engage specific stakeholders who are relevant to the challenge that each city aims to solve using digital twins. Stakeholders are expected to participate in various activities falling under the design and validation workstreams as outlined in DUET's methodology.

*Table 3. Stakeholder contributions to pilot cycles*

Cycle Stage	Stakeholders	Method of Engagement
<b>A1. Design Thinking:</b> Experimentation and co-creation through brainstorming, hands-on prototyping and testing	Users Enablers	<ul style="list-style-type: none"> <li>● Personal invitations showcasing benefits of DUET</li> <li>● Multi-stakeholder workshops</li> <li>● Interactive visioning exercises</li> <li>● Follow-up 'thank you' email</li> </ul>
<b>A2. Value Network Analysis:</b> Exploration of DUET's community of interest	Users Enablers Influencers	<ul style="list-style-type: none"> <li>● Expert lens interviews</li> <li>● Focus groups</li> </ul>
<b>C2. Pilot Demonstrations:</b> Testing the solution with different user groups	Users Enablers	<ul style="list-style-type: none"> <li>● Hackathons</li> <li>● Data jams</li> <li>● Scenario testing</li> </ul>
<b>C3. Validation:</b> Gathering feedback on usefulness of DUET, including reaction monitoring on social media	Users Enablers Influencers	<ul style="list-style-type: none"> <li>● Social survey</li> <li>● Online polling</li> <li>● Opinion mining</li> <li>● Interviews</li> </ul>

## Communication Activities by Sales & Marketing Phase

### M1-12: Awareness Building

#### Aim:

- Engage the relevant stakeholder groups in co-design activities to gather the necessary requirements and secure buy-in for future demonstration and validation activities.

#### Activities:

- Research local stakeholders relevant to the policy challenge of each pilot and start building a contact database
- Adapt project vision and create local postcards with a call to action to sign-up for DUET updates
- Send the flyers/brochures to local stakeholders to introduce them to the project; those who were engaged at the proposal stage should be notified that the project has started

- Personal calls and email invitations to participate in co-design workshops
- Create short video explaining the new processes to share on local social media channels
- Attend local events to speak about DUET and its aims
- Host co-design workshops and events
- Keep participants informed after workshops through local newsletters, email updates

#### Key Messages:

- Users: Change the way you see the city: Experiment with policy design and simulation in a no-risk virtual city environment.
- Enablers: Change the way you see the city: Unleash the full potential of your data by joining the DUET community, an innovation driven ecosystem that harnesses the power of IoT to transform policy making through digital twins

#### Outputs:

- D7.1 Enhanced Communication, Dissemination & Exploitation Roadmap
- Dissemination material to hand out at local events
- Local contacts database

### M13-24: Interest Generation

**Aim:** Encourage participation in the policy making process enabled by digital twins and gather user feedback to improve DUET's framework and tools

#### Activities:

- Ensure the Phase Plan for communications reflects outputs of T6.2 Personalising the Digital Twins
- Generate incentives that will encourage participants to take part in the piloting (T6.3)
- Invite local contacts to participate in the testing cycles
- Run training sessions to guide stakeholders on using DUET and capture their feedback
- Encourage participants to bring their friends/contacts/colleagues to the user group events
- Networking activities with stakeholders during local events
- Dissemination of user group results through local newsletters and local social media channels

#### Key Messages:

- Users: Trialling sessions of the city's digital twins are underway. Test this brand new solution for free and get a reward!
- Influencers: A beta version of the city's digital twin is now available. Visit [digitalurbantwins.com](https://digitalurbantwins.com) to find out more

#### Outputs:

- D6.3 Pilot Testing Cycle Report (ed. 2)
- D7.6 Business and Exploitation Scenarios (ed. 1)
- Dissemination collateral

## M25-36: Desire Stimulation

**Aim:** Encourage participation in communities beyond the pilot network by stressing commercial and non-commercial benefits of the DUET solution

### Activities:

- Work with WP6 (Pilot Scenarios, Deployment & Impact Validation) to ensure project-level communication supports the evaluation methodology
- Set up an online survey and provide support with follow up interviews
- Create flash polls on social media and within newsletters
- Ensure results are pushed back to participants via newsletters and social media updates

### Key Messages:

- **Users:** Urban policy making has never been easier. With DUET technology, you can simulate the impact of new measures in real-time and gain actionable insights in just a few clicks. See for yourself at [digitalurbantwins.com](https://digitalurbantwins.com)
- **Enablers:** Looking to enhance the value of your data? DUET helps you see a bigger picture by generating insights through state-of-the-art digital twin technology. Beta version currently available for testing at [digitalurbantwins.com](https://digitalurbantwins.com)
- **Influencers:** A new digital twin solution is set to transform policy making in your city, making it more agile, citizen centric and evidence based. Check out the prototype at [digitalurbantwins.com](https://digitalurbantwins.com)

### Outputs

- D2.5 Policy Network Canvas - Stage II
- D6.5 Pilot Testing Cycle Report (ed. 3)
- D6.6 Pilot Evaluation Report
- D7.7 Business & Exploitation Scenarios
- Dissemination material

## Track 2: Dissemination of Results

DUET's outputs, results and deliverables will be continuously disseminated across Europe throughout the project via different channels. The main results to be disseminated are

- Digital twin instances
- Pilot experiences and lessons learned
- Digital twin training kit
- Scientific publications

Dissemination will differ in intensity as the project develops, however the main goal is always the same: widespread adoption of DUET results by relevant stakeholders in their work, life or study. For results to make a difference, they should resonate with groups that represent large swathes of society. To that end, DUET will seek to establish links with European and international networks, starting with the ones in the diagram.



Figure 4. Potential networks for engagement

Outreach and introductions will be made to DUET's networks at the start of the project, offering opportunities for knowledge exchange e.g. cross-posting results of through each other's newsletters, joint activities such as shared workshops, conference stands and even publications.

As dissemination deals with all the outputs of the project, the Dissemination Track will be responsible for ensuring all the deliverables from all three tracks are fit for purpose starting with this consolidated Roadmap. The rest of this chapter outlines the activities to be carried out in three main sub-phases (aligning with the sales and marketing funnel) which span the entire project and extend beyond it.

## Dissemination Activities by Sales & Marketing Phase

### M1-12: Awareness Building

**Aim:** The main purpose of this phase is to create general awareness across Europe about DUET, its objectives, activities and expected results.

**Activities:**

- Development of the consolidated roadmap
- Creation of the project brand identity (logo, website, key messages, slide deck)
- Setting up and managing the social media accounts

- Creation of the initial list of European conferences and events that could be of interest to the Consortium
- Development of networks' list for outreach and introduction

#### Key Messages:

- Influencers: DUET, a new Horizon 2020 project, is on a mission to improve urban policy making through the use of digital twins for agile impact assessment and experimentation
- Enablers: DUET, a new Horizon 2020 project on digital twins, leverages IoT data to inform urban policy making, creating opportunities for city-wide experimentation and innovation

#### Outputs:

- Project website
- Dissemination collateral (banner, postcards, stickers)
- D7.1 Enhanced Communication, Dissemination & Exploitation Roadmap
- D8.1 Project Vision

### M13-24: Interest Generation

**Aim:** The dissemination activities during this phase will aim at attracting potential users and early adopters. The outputs to be disseminated will be the free training offer as well as the project's concrete results and success stories.

#### Activities:

- Create newsletters to showcase key results and milestones and advertise training opportunities
- Share news stories through partner networks to scale reach
- Create press releases that appeal to European and national news outlets
- Offer first training opportunities exclusively to partner networks
- Secure the first training opportunities and coordinate logistics
- Build and manage social media campaigns around the training offer
- Develop promotional videos to showcase the benefits of DUET solution
- Revamp the website considering the initial prototype and piloting activities
- Create first draft of case studies from pilots designed to show a business case for DUET
- Develop and deliver social media campaigns targeted at specific Stakeholders
- Find and nurture collaboration opportunities with networks
- Participate in relevant conferences, workshops, targeted events

**Key Messages:** To be created at the start of the phase

#### Outputs:

- D5.2 Initial Digital Twin Prototype
- D7.4 DUET portal (ed. 3)
- D7.6 Business & Exploitation Scenarios (ed. 1)

## M25-M24: Desire Stimulation

**Aim:** The dissemination activities during this phase will aim at attracting potential users and early adopters for the DUET solution. This will mainly be achieved through a series of workshops designed to inform stakeholders about the benefits of digital twins for urban policy making.

**Activities:**

- Undertake the trainings and capture feedback from participants
- Update the website with results from Tracks 1 and 3
- Update the case studies with concrete evidence to support the business case for DUET
- Generate interest from new cities to try out the DUET framework
- Continue to interact and share with partner networks
- Participate in conferences, workshops and targeted events with sales material from Track 3:  
Targeted Exploitation

**Key Messages:** To be created at the start of the phase

**Outputs:**

- D7.5 DUET portal (ed. 4)
- D7.7 Business & Exploitation Scenarios
- D7.8 Digital Twins for Policy Making: A Starter Kit with Accompanying Book
- D7.9 Policy Brief

## Track 3: Targeted Exploitation

DUET makes it easy for any city, regardless of size, to benefit from opportunities that digital transformation provides, such as cloud infrastructure & Artificial Intelligence (AI), and realise the full potential of city data to drive an era of informed, smart and co-created policy making. DUET leverages cloud and high-powered computing to connect physical and cyber systems resulting in a near real time, digital footprint of a city for exploration and experimentation. The solution is extendable and reproducible, allowing new modules to be added easily to create a digital twin for a new city. Thanks to strong focus on interoperability and portability, DUET's Policy-Ready-Data- as-a-Service (PRDaaS) advances global standards for city data enabling a digital twin to be set-up in one-click for systemic policy impact exploration and experimentation.

The end goal of the exploitation track is to create opportunities for all these results to enjoy widespread uptake that extends beyond pilot locations. This requires identification of the most appropriate sustainability model and putting it into action. Additionally, it is important to reach the widest possible audience of stakeholders in the sector with the right message about potential benefits. A full analysis matrix of stakeholders and areas of interest is presented above and it ensures that DUET engages specific audiences with tailored messages at the right time through the most appropriate channels.

In order to deliver this ambitious vision, the consortium will start with a rigorous programme of market analysis. Its outcomes will help tailor DUET outputs to the precise needs of rapidly changing and budget-



conscious public administrations. The following strategy, executed over the lifetime of the project, will deliver a market-ready commercial solution by M36 to ensure a viable and sustainable customer base before the end of European financing. To deliver the right sustainability model, the exploitation strategy will proceed in four interrelated waves. The framework used is the same sales-and-marketing funnel approach described above. However, in the exploitation stream, we cover all four waves

- Wave 1: Research (Awareness)
- Wave 2: Understanding (Interest)
- Wave 3: Packing & Marketing (Desire)
- Wave 4: Sales & Adoption (Action)

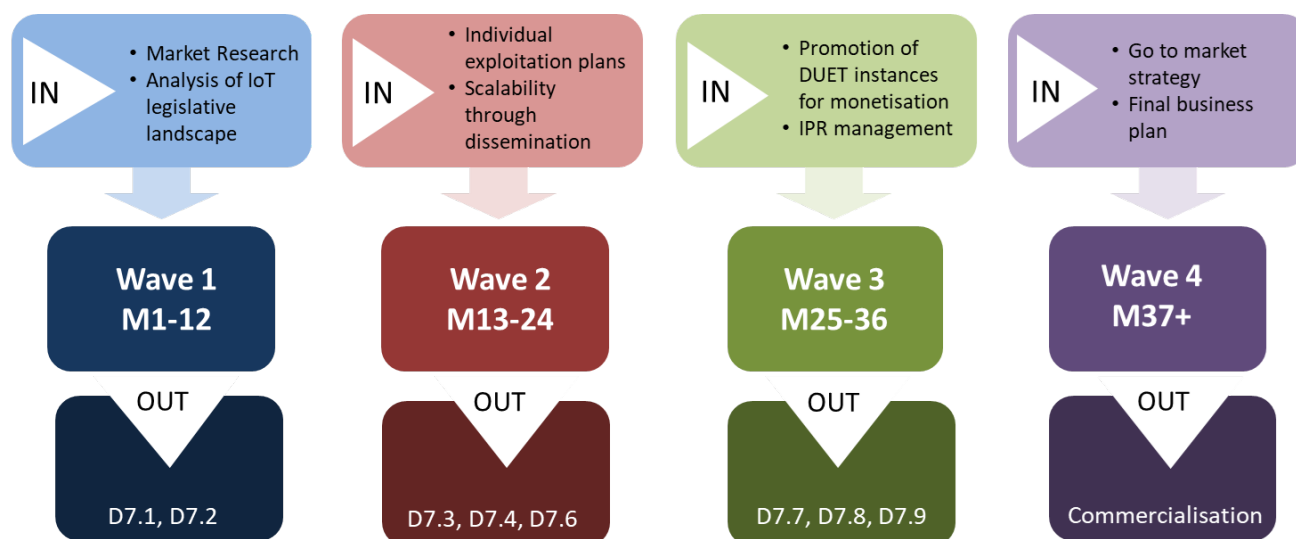


Figure 5. DUET exploitation approach

## Exploitation Activities by Wave

### Wave 1: Research (Awareness) M1-12

**Aim:** To identify the most up to date challenges and trends in using digital twins for (urban) policy making; to identify possible competitors and understand their proposed tools and solutions; and to analyse the Digital Single Market strategy that DUET will need to consider for future positioning. This will be achieved through two key techniques:

1. **Value Network Analyses (VNAs)** are qualitative in nature and are useful whenever sustainability modelling rises above a single organisation level. VNAs aim to take into account the differing and sometimes-conflicting interests and motives of stakeholders from a variety of industrial or public fields. The value networks are developed using qualitative data gathered from a blend of desk research, in-person interviews and public workshops.
2. **Business Model Clinics (BMCs)** will focus on the development of suitable business models for the exploitation of the DUET tools. DUET's BMCs will take into account the needs of all stakeholders who could be potential competitors, customers or consumers of DUET's services to generate a 360° of the business landscape. BMCs will factor in social, technological and economic performance under an evolutionary perspective in order to assess the desirability of the different business models from different stakeholder perspectives and arrive at a balanced approach that maximises both stakeholder value and commercial viability. This business modelling technique is based on a multi-criteria

approach which will use different data sources including in-field investigation, opinion leader interviews, living lab consultation groups and social-network short-form surveys and virtual business simulation to arrive at an optimal result.

**Activities:*****Value Network Analysis***

- Conduct desk research to produce a preliminary map of real-life, tangible and intangible, formal and informal exchanges between different nodes of the networks relevant to DUET
- Through interviews with representatives of each network, supplement desk research findings with insights into the value creation process, focusing in particular on enabling factors and impediments
- Bring together value network representatives in a workshop environment with a view to validating the results of two previous steps and, more importantly, to identifying new synergies conducive to better cooperation

***Business Model Clinics***

- Conduct several expert-lens interviews to gain a preliminary understanding of the market DUET is entering, including any trends, technologies or projects that merit attention due to their innovation potential
- Select several case studies from the above for further (in-field) investigation; the aim here is to understand exactly how different models operate and select a few that have a potential fit with DUET
- Test the 'goodness of fit' through a series of Living Lab consultations with stakeholders identified in the Value Network Analysis
- Supplement consultation findings with an end user perspective based on data from a survey distributed via social media and other channels, both on- and off-line
- Test a selection of business models during what-if scenario workshops with partners at least twice during the project
- Feed the BMC input into the T7.4 Sustainability through Exploitation & Commercialisation

**Key Messages:**

- Users - What are the digital twins and how can they improve urban policy making? Find out the answer at the free DUET workshop
- Enablers - Is the market ready for a digital twin revolution? Share your thoughts via quick survey
- Influencers - Time to catch up with the private sector. What lessons can public administrations learn from the industry in using digital twins?

**Outputs:**

- D2.1 Policy Network Canvas

## Wave 2: Understanding (Interest) M13-24

**Aim:** To explore with local stakeholders potential business models for digital twins in the urban policy-making context

**Activities:**

- Face-to-face business modelling workshops in Flanders, Czech Republic and Greece
- Adjusting international best practice and business models to local needs
- Educating new stakeholders through targeted dissemination

**Key Messages:**

- Enablers: The business promise of digital twins - myth or reality? Share your thoughts on how the ideal opportunity should look like

**Outputs:**

- D7.6 Business & Exploitation Scenarios (ed. 1)
- Individual partner exploitation plans and a clear way forward for rolling out a commercial version later on
- Additional 'stand-alone' exploitation scenarios with measurable results by the final review of the project

## Wave 3: Packing and Marketing (Desire) M25-36

**Aim:** To create favourable conditions for DUET's wide-scale adoption after the funding period ends.

**Activities:**

- Implement the 'depth strategy' focusing on the technological integration of the DUET solution
- Reach out to affiliated networks in the IoT and smart city domains
- Implement the 'breadth strategy' focusing on the wider uptake by relevant stakeholders
- Introduce capacity building for public administrations through workshops at major European conferences
- Use training to attract new users, early adopters and encourage public administrations to embed the DUET framework and tools in their operations, and offer commercial incentives to use its tools
- Partner Network Exploitation

**Key Messages:**

- Users - Come to our workshop to learn from DUET pilots about their experience with digital twins and how this technology can help your city

**Outputs:**

- D7.7 Business & Exploitation Scenarios (ed. 2)
- Digital Twins for Policy Making: A Starter Kit with Accompanying Book
- D7.9 Policy Brief
- DUET monetization model

## Wave 4: Sales & Adoption (Action) M37+

**Aim:** To sustain DUET as a commercially viable solution post-project, one that can generate lucrative business opportunities for project partners and deliver tangible benefits to clients and end-users

### Activities:

- Use the traditional cold calling approach to generate interest in the product
- Meet prospective customers at conferences where European cities are represented
- Focus on business networking as a means to develop sales opportunities and contacts. This can be done face-to-face at meetings and increasingly through specialised social and business networking websites
- Additionally, seek out tender opportunities both public and private. For public opportunities, TED platform<sup>5</sup> is a useful resource. Tender leads for private sector contracts are usually not publicly advertised and so will require a bit more effort. DUET will consider using commercial services (e.g. Tracker)<sup>6</sup> that scan the online business world for all available tender notices

### Key Messages:

- Users - Test DUET for free see how your organisation can benefit from the power of state-of-the-art digital twin technology

### Outputs:

- A loose partnership agreement will be put in place before the end of the project to provide general guidance for partners after the final review
- DUET revenue sharing triggers will be tied to the amount of work each partner will be able to carry out or commit to
- Business contracts with public institutions across Europe

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<sup>5</sup> <http://ted.europa.eu>

<sup>6</sup> <https://www.trackerintelligence.com/app/tenders/private-sector/>

## 4. Evaluation

To know whether the consolidated roadmap is effective, the communication team will deploy a comprehensive evaluation strategy for measuring the impact of roadmap' activities. This will include both quantitative and qualitative KPIs.

### 4.1 Quantitative KPIs

To capture the results of different tactics deployed during the project lifecycle, several measurements and indicators have to be set for each of the key activities. The earlier in the project these tactics are implemented the better as no information will be lost. The table below outlines quantitative targets for tracking and measuring progress.

*Table 4. Quantitative KPIs*

Y1 Target	Indicators	Means of Verification
10	Events attended	Events where partners had a presentation or a booth
10000	Website visitors	Online traffic measured through Google Analytics
100	Mailing list subscribers	No. people signed up through the website
10	Size of Value Network	Engaged external members in pilot cities e.g. workshops
200	Social media presence	No. followers, Klout score
1	Publications	Papers published on external platforms
3	Project cluster	No. sister projects engaged in discussions

### 4.2 Qualitative KPIs

While quantitative targets are important, they are not enough to understand whether something is performing to the desired standard. For that reason, qualitative feedback is needed to paint a more complete picture.

*Table 5. Qualitative KPIs*

Indicator	Objective	Means of Verification
Relevance	Communication and dissemination messages should be relevant to stakeholders being targeted	<ul style="list-style-type: none"> <li>• Contact form</li> <li>• Flash polls</li> <li>• Time lag between results creation and</li> </ul>
Clarity	Communication and dissemination messages should be clear enough to be easily recognised	

Timeliness	Communication and dissemination tactics should follow the principle “strike while the iron is hot”	announcement <ul style="list-style-type: none"> <li>● Click through rate</li> <li>● No. downloads</li> <li>● Follow-ups e.g. email exchanges, on/offline meetings</li> <li>● Coordinator’s contact</li> <li>● Unsubscribe button</li> </ul>
Efficiency	The outcome of communication and dissemination tactics should be proportional to the amount of invested effort, time and resources	
Openness	Outreach efforts should include an option for target audience to provide feedback, complain, make suggestions or unsubscribe	

## 5. Risks & Mitigation Measures

During a project it is normal to expect risks, some of which could be related to WP7. As the leader of this work package, 21C will ensure that any unexpected risks are dealt with promptly and in line with the mitigation strategy outlined in the Description of Action.

*Table 6. Risk and mitigation measures*

Risk	Probability	Impact	Mitigation
Project branding is confusing and weak and it does not convey the correct message	Medium	High	Evaluate performance KPIs, measure footfall at conferences, distribution of dissemination collateral
Project website fails to send a clear project message	Medium	High	All partners will be asked to provide feedback before a new version is released
Social media does not create enough buzz	Medium	Low	Social media updates will be made regularly (daily or weekly, depending on needs) with appropriate messaging, #s, @s, links and rich media
The consolidated Roadmap is too ambitious and hard to implement	Medium	Medium	The Roadmap will be updated multiple times to ensure it is grounded in reality
Stakeholders are disengaged as simulations results are hard to interpret	Medium	High	There will be targeted messages for all the different stakeholder groups. There will also be several data collection tools (e.g. targeted surveys, embedded questionnaires) available to stakeholders to leave feedback on DUET's technical, visual and analytical outputs. This will allow the Consortium to react quickly to any negative comments and/or requests for improvement
Partners do not support or contribute to communication and dissemination activities	Low	High	Regular updates will be sent out using internal communication channels to remind partners of the importance of promoting the project. Additionally,

			hands-on training will be provided to interested partners upon request
Pilots are busy with technical development and pay insufficient attention to stakeholder engagement	Medium	High	During the regular pilot calls partners will be reminded of the importance of engaging stakeholders at every available opportunity. 21c will support all the consortium partners with the Kit for Partners that will guide and help all the consortium in sending targeted messages to the stakeholders
Dissemination events fail to bring new users to the project	Low	Medium	Quantitative and qualitative KPIs have been set to track progress. Corrective action will be taken after reviewing performance and evaluating user feedback
A competitor solution is more attractive than DUET's	Medium	High	Market research will identify all the main competitors and present them within the SWOT framework. The aim then will be to enhance strengths and opportunities and to minimise weaknesses and threats
Commercialisation becomes difficult due to many IPRs involved	Medium	High	Data and IPR management plan will be included in both versions of the Business and Exploitation Plan deliverable. Thus any potential conflicts over IPR will be identified early in the project, giving partners sufficient time to resolve them
Few or no exploitation opportunities emerge at the end of the project	Low	Medium	To ensure the project extends beyond the funding period, WP7 will run business model clinics to identify, test and improve sustainability frameworks most conducive to long-term success



## 6. Responsibilities

### 6.1 Communication Responsibilities

The Communication plan is not a single-player game. Though the pilot cities are primarily in charge of their local stakeholder outreach, in order to succeed they need the support of all the whole consortium. The main lead partner for project-level communication is 21c.

*Table 7. Communication responsibilities*

Partners	Actions	Purpose
<b>Pilots:</b> DAEM, PLZ, AIV	<ul style="list-style-type: none"> <li>Reach out to local stakeholders at key points in the pilot cycle</li> <li>Organise opportunities to demonstrate DUET directly to local stakeholders</li> <li>Manage stakeholder interactions, questions and queries</li> </ul>	<ul style="list-style-type: none"> <li>Raise awareness of the local pilot and encourage participation</li> <li>Prepare a baseline evidence for creating a business case</li> </ul>
<b>Tech:</b> ATC, AEG, VCS, KUL, TNO, GFOSS, imec	<ul style="list-style-type: none"> <li>Support pilot partners with the demos they need to engage stakeholders</li> <li>Ensure digital twins are not only technically advanced but also user friendly</li> </ul>	<ul style="list-style-type: none"> <li>Demos should be easy to use and understand by non-tech partners in order to increase the adoption chances</li> <li>The easier and more user-friendly the digital twins the higher are the chances of their adoption</li> </ul>
<b>Other:</b> 21c, ISP, OASC, GSL, P4A	<ul style="list-style-type: none"> <li>Provide messages, ideas and support collateral to help pilots with their outreach</li> <li>Assist pilots with evaluation of stakeholder engagement and management procedures</li> </ul>	<ul style="list-style-type: none"> <li>Ensure consistency in branding and outreach approach for both pilot and project-level comms</li> </ul>

### 6.2 Dissemination Responsibilities

All project partners will perform dissemination activities, but they will differ according to partner type and their area of specialisation.

*Table 8. Dissemination responsibilities*

Partners	Actions	Purpose
<b>Tech:</b>	<ul style="list-style-type: none"> <li>Advertise DUET to their networks</li> </ul>	<ul style="list-style-type: none"> <li>To raise industry level awareness</li> </ul>

ATC, AEG, VCS, KUL, TNO, imec	<ul style="list-style-type: none"> <li>• Submit papers on DUET results to technical conferences</li> <li>• Create demo versions of visualisations to be used at various European events</li> <li>• Present DUET at technical smart city and digital twin conferences</li> <li>• Promote DUET achievements through own social media channels</li> </ul>	<ul style="list-style-type: none"> <li>• To gather tech feedback from relevant stakeholders</li> <li>• To encourage the adoption of DUET framework and tools</li> </ul>
<b>SMEs:</b> 21c, ISP	<ul style="list-style-type: none"> <li>• Disseminate results to city policy makers</li> <li>• Promote DUET achievements through own social media channels</li> </ul>	<ul style="list-style-type: none"> <li>• To raise industry-level awareness</li> <li>• To encourage the adoption of DUET framework and tools</li> </ul>
<b>Pilots:</b> DAEM, PLZ, AIV	<ul style="list-style-type: none"> <li>• Advertise DUET to their networks</li> <li>• Disseminate results to city policy makers to encourage wider adoption</li> <li>• Promote DUET achievements through own social media channels</li> </ul>	<ul style="list-style-type: none"> <li>• To raise industry-level awareness</li> <li>• To encourage the adoption of DUET framework and tools</li> </ul>
<b>Other:</b> OASC, GSL, P4A	<ul style="list-style-type: none"> <li>• Target research institutes and universities across Europe</li> <li>• Reach out to cities across the world, as well as international organisations working on smart cities and similar topics</li> <li>• Create and present R&amp;D papers at scientific conferences</li> </ul>	<ul style="list-style-type: none"> <li>• To raise industry-level awareness</li> <li>• To gather feedback from relevant stakeholders</li> <li>• To encourage the adoption of DUET framework and tools</li> </ul>

## 6.3 Exploitation Responsibilities

The exploitation responsibilities should be done by all project partners but will differ according to partner type and their area of specialisation.

*Table 9. Exploitation responsibilities*

Partners	Actions	Purpose
<b>Tech:</b> ATC, AEG, VCS, KUL, TNO, GFOSS, imec	<ul style="list-style-type: none"> <li>• Contribute to the identification of the most appropriate sustainability model</li> <li>• Reach a wide audience of stakeholders</li> <li>• Strengthen the collaboration with</li> </ul>	<ul style="list-style-type: none"> <li>• Increase the overall chances of success</li> <li>• Establish a wide network of potential users interested in adopting DUET's outcomes</li> </ul>

<b>Pilots:</b> DAEM, PLZ, AIV  <b>Other:</b> OASC, GSL, P4A	local groups and those forming DUET's Value Network	
<b>SMEs:</b> 21c, ISP	<ul style="list-style-type: none"> <li>Identify the most appropriate sustainability model</li> <li>Reach a wide audience of stakeholders</li> <li>Strengthen collaboration with Value Network groups</li> </ul>	<ul style="list-style-type: none"> <li>To tailor project outputs to the precise needs of a rapidly changing and budget-conscious public sector</li> <li>To deliver a market-ready solution by M36 and ensure a viable and sustainable customer base before the end of the project</li> </ul>

## 6.4 Common Activities

In order to make it easier for partners to implement this consolidated Roadmap, we created time bound activities (daily, weekly, yearly) to be undertaken by partners with the support of 21c.

*Table 10. Daily and weekly activities*

Partners	Actions	Purpose
21c	<ul style="list-style-type: none"> <li>Publish a post directly or indirectly related to DUET e.g. a new European city is testing digital twins</li> <li>Build presence on Twitter (@DuetH2020)</li> <li>Use direct messages to strike up conversations and build relationships with relevant stakeholders and encourage them to participate</li> </ul>	Become a social influencer i.e. an authoritative voice in the growing digital twin community; build a large community of followers among which potential adopters can later be found
All	Fill and update the Stakeholder & Dissemination Database weekly. Use management and pilot calls to remind partners of the reporting tool, to discuss any events that partners organised/attended, any publications that mention DUET	To have this tool regularly updated is extremely important for the success of the project

Table 11. Monthly activities

Partners	Actions	Purpose
21c	Post an article under the Blog section of the website to promote project achievements, past or future dissemination activities. 21c will also ask pilots and other partners to share relevant news related to DUET themes	Displays dynamism, promotes project achievements and gives stakeholders a sense that DUET holds its hand on the pulse of wider developments in smart cities
All	Report all communication, dissemination and exploitation activities. Possibly hold monthly meetings with the comms people from partner organisations	All partners should update the Stakeholder & Dissemination Database to ensure no information is forgotten in the technical reports
	Add forthcoming conferences that align with DUET's areas of interest	To have an updated list of events where the project can be promoted

Table 12. Yearly activities

Partners	Year	Actions	Contribution
All	1	<ul style="list-style-type: none"> <li>Engage all relevant stakeholders</li> <li>Create a project website</li> <li>Develop &amp; maintain social media accounts</li> <li>Design and start distributing dissemination materials</li> <li>Report on all communication activities</li> <li>Update Stakeholder &amp; Dissemination Database</li> </ul>	<ul style="list-style-type: none"> <li>D7.1</li> <li>D7.2</li> </ul>
	2	<ul style="list-style-type: none"> <li>Review the dissemination materials</li> <li>Strengthen stakeholder engagement through updated news about the project</li> <li>Create the first Business and Exploitation Plan</li> <li>Update the website</li> </ul>	<ul style="list-style-type: none"> <li>D7.3</li> <li>D7.4</li> <li>D7.6</li> </ul>
	3	<ul style="list-style-type: none"> <li>Review the dissemination materials</li> <li>Strengthen stakeholder engagement through updated news about the project</li> <li>Update the website</li> <li>Release the final Business &amp; Exploitation Plan</li> <li>Share knowledge through Book and Policy Brief</li> </ul>	<ul style="list-style-type: none"> <li>D7.5</li> <li>D7.7</li> <li>D7.8</li> <li>D7.9</li> </ul>

## 7. Conclusion

This deliverable presented a baseline for the dissemination work package in an easy-to-follow way. It provided a comprehensive description of the communication, dissemination and exploitation plans of DUET to ensure all actions and strategies work together and complement one another.

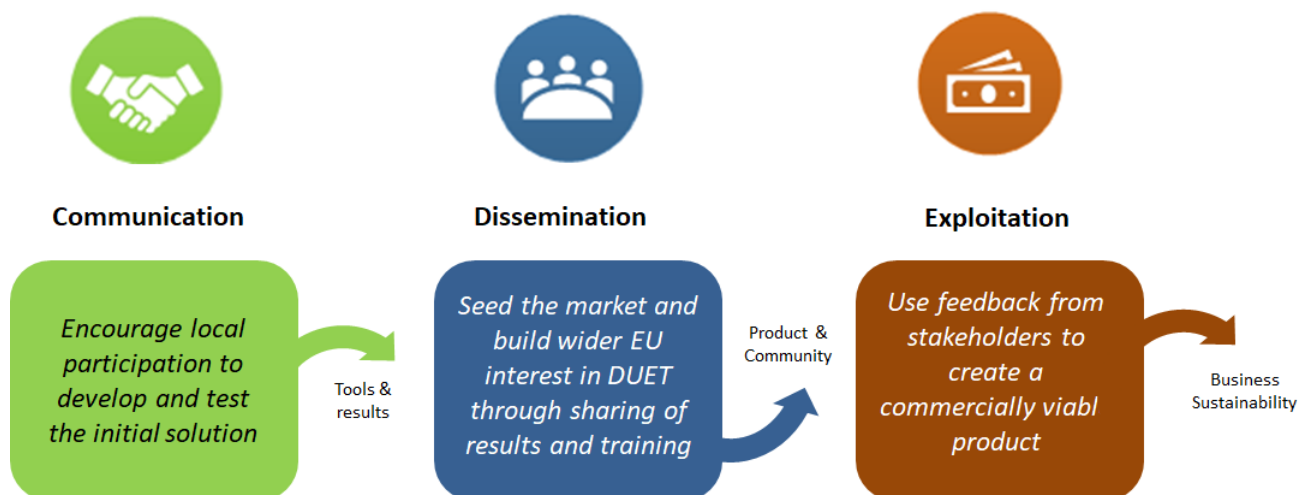


Figure 6. Relationship between the three tracks

As a continuation of this document, 21c will release new Kits for Partners at regular intervals, providing guidance to the consortium members on how to promote and scale awareness of the project. Along with the Kit for Partners, updated messages and dissemination collateral (brochures, flyers, videos, etc.) will be provided.

In addition, 21c will keep an eye and send periodic reminders to the consortium to keep the online reporting tool up to date. This will allow us to keep track of all the events where the project was or could be disseminated, of projects and initiatives with which we could collaborate, and of papers that were published.

To conclude, the consolidated Roadmap is a creative and continuous process, which will span the entire funding and post-project period (the latter thanks to the exploitation plan). New ideas for engagement will arise over the course of the project and these will be assimilated and adopted into the Roadmap. 21c welcomes any ideas or questions from the entire consortium at any time.

# Appendix A: Kit for Partners

## Purpose

The aim of Kit for Partners is to provide guidance to the consortium on how to promote and scale awareness about DUET during the project lifecycle. Following the initial release, new versions of the Kit for Partners will be made available at least once every six months. Special Kits can also be prepared upon request to help pilots with ad hoc needs. The initial Kit for Partners supports awareness building as follows

- By consolidating partners' efforts in spreading the word that the project is underway
- By providing a visually appealing comms material that generates interest in the project
- By standardising messaging on social media and other channels for greater coherence and effectiveness

## Tactics

In the coming months, awareness raising activities will rely on four main tactics:

### Traditional

- *Flyers*: brochures to leave at local events, smart city and tech hubs etc.

### Online

- *Press release*: to be sent out to local, national and European journalists
- *Newsletter*: special edition focusing on the launch of the project and then every quarter or six months showcasing recent achievements
- *Blog*: a short blog on the benefits of digital twins for urban policy making

### Social media

- *Twitter (@Dueth2020)*: weekly communication of key messages

### Networking

- *Piggybacking*: ask relevant networks and other organisations to promote the project
- *Local and European events*: use the original DUET slide deck and postcards/brochures
- *Amplification*: Tweet at every event and write a short post about the experience so that it can be published on the DUET website and also shared through other channels

## Plan

Table 13. Awareness building - next steps

Date	Activity	Responsibility	Material
February 2020	Send the press release via distribution services that DUET is underway. All partners are encouraged to translate the press release into their own language and distribute to local news outlets	21c	Appendix B
March 2020	Each partner to post an article about DUET	All	Appendix C

	and share it on Twitter tagging @DuetH2020		
May 2020	Send out the first newsletter announcing the project and start of co-creation activities	21c	Forthcoming

## Responsibilities

All partners are encouraged to make frequent use of different channels to promote the project.

### Use Social Media

Please use the project Twitter handle @DuetH2020 in your tweets to alert 21c to your post. We will then re-share to amplify impact.

### Report on Events

If you attended an event and talked about DUET as a panellist, speaker, presenter or even casually to someone (networking), please report it in the online tool ([shorturl.at/qBIZ8](https://shorturl.at/qBIZ8)), adding a few sentences about your experience and a photo. We will then create a blog from this information and might also include it in the newsletter.

### Add New Events

If you know of any future events that are relevant to DUET, please add them to the same database ([shorturl.at/qBIZ8](https://shorturl.at/qBIZ8)).

### Report on Publications

If you or someone you know published an article about DUET, please report it via [shorturl.at/qBIZ8](https://shorturl.at/qBIZ8). Everything counts: blogs, books, scientific papers, social media posts, newsletters, TV appearances, podcasts.

## Messaging

When communicating with the target audience, it is important that we use consistent messaging across the different channels. In crafting our messages, we should also consider the needs of various project stages and support the corresponding activities as much as possible. Feel free to make your own posts or recycle the ones below. The list is non-exhaustive and will be updated in future versions of the Kit for Partners.



### General Interest

- DUET, a new Horizon 2020 project on digital twins, leverages IoT data to inform urban policy making, creating opportunities for city-wide experimentation and innovation
- DUET, a new Horizon 2020 project, is on a mission to improve urban policy making through the use of digital twins for agile impact assessment and experimentation

### Local Co-Design Events

- What are the digital twins and how can they improve urban policy making? Find out the answer at the free DUET workshop
- Is the market ready for a digital twin revolution? Share your thoughts via quick survey
- Time to catch up with the private sector. What lessons can public administrations learn from the industry in using digital twins?
- The business promise of digital twins - myth or reality? Share your thoughts on how the ideal opportunity should look like
- Come to the our workshop to learn from DUET pilots about their experience with digital twins and how this technology can help your city
- Unleash the full potential of your data by joining the DUET community, an innovation driven ecosystem that harnesses the power of IoT to transform policy making through digital twins
- Not sure what digital twins can do for your city? DUET has an answer. Come to our free co-design session to learn about the benefits of IoT driven innovation

### Pilot Trials

- A beta version of the city's digital twin is now available. Visit [digitalurbantwins.com](https://digitalurbantwins.com) to find out more
- Urban policy making has never been easier. With DUET technology, you can simulate the impact of new measures in real-time and gain actionable insights in just a few clicks. See for yourself at [digitalurbantwins.com](https://digitalurbantwins.com)
- Looking to enhance the value of your data? DUET helps you see a bigger picture by generating insights through state-of-the-art digital twin technology. Beta version currently available for testing at [digitalurbantwins.com](https://digitalurbantwins.com)



- A new digital twin solution is set to transform policy making in your city, making it more agile, citizen centric and evidence based. Check out the prototype at [digitalurbantwins.com](http://digitalurbantwins.com)
- Test DUET for free see how your organisation can benefit from the power of state-of-the-art digital twin technology
- Trialling sessions of the city's digital twins are underway. Test this brand new solution for free and get a reward!

## Appendix B: Press Release Template

The following press release will be sent to various distribution services and partner networks for publication. All consortium members are welcome to take the release and customise it for their local news outlets. Please include an appropriate picture (either the one below or your own) before sending. Include the press release text directly in the email body. No “Dear” or introduction is needed.

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### New Project Helps Cities Address Local Problems With A Digital Twin Technology

**DUET** - a new European initiative leverages the Internet of Things and Cyber-Physical Systems to inform urban policy making in Pilsen, Athens and Flanders.



Antwerp - The explosion of data along with enabling technologies (artificial intelligence, machine learning, cognitive computing etc.) is already driving a paradigm shift in the way cities and regions are governed. However, many public administrations are still at the start of the transformation journey and progress in general has been slow. Past studies found that only 12% of city data is analysed and used for decision making and management, leaving the vast majority of the corpus untouched. Why are cities not taking advantage of the data-rich environment that surrounds them? Assuming cities find a way to harness most of this data, how can we ensure they make the most of it to inform agile, forward looking policy making? These are the sort of questions that DUET aims to answer.

DUET is a brand new innovation project which leverages the advanced capabilities of cloud and high-performance computing, in the form of Digital Twins, to help public sector decision-making become more democratic and effective. By creating digital replicas of a city, people, no matter their background, can use the

Digital Twins 3D and 2D interfaces for easy policy impact exploration and experimentation across entire cities and regions.

DUET's use of Digital Twins truly changes the policy game, disrupting the field of Smart Cities and transitioning to a new age of Responsive Cities. With responsive cities, solutions are not designed around citizens, they are designed with the citizen placed firmly at the centre of the action. Where Smart Cities are technology driven and produce large amounts of data from fixed or centrally controlled sensors, Responsive Cities recognise that citizens are also a major player in data generation which helps to shape real-time city decisions.

Initially, DUET will be developed and tested in Antwerp, Pilsen and Athens. These pilots start from different positions on the digital twin journey. Antwerp has a working prototype. Pilsen has the tools but not an integrated solution. Athens lacks both. However, all three believe in the concept, sharing a conviction that digital twin technology is key to effective, future-proof policy making. By the end of the project, each pilot receives a solution commensurate with their city's digital maturity, smart city strategy, political buy-in and budget.

During the project, DUET will be tested in the smart city environment, with local administrations as its main users. However, a fully developed solution has no restrictions when it comes to potential adopters. City halls, companies (big and small), universities, emergency services all are using DUET because it is cheaper, more advanced and user-friendly than competitor solutions. Thanks to DUET, organisations become more responsive, reacting rapidly to real-time events; policy decisions are faster and more effective, and relationships with citizens are improved.

At DUET's launch in Antwerp, Project Coordinator Lieven Raes of Agency Informatie Vlaanderen said "What is clear now is that the project has an ambitious vision and a correspondingly high potential to realise it while delivering multiple benefits to a variety of stakeholders. Any city regardless of size can use DUET to realise the full potential of city data, and drive an era of informed, smart and co-created policy making."

To find out more about DUET and keep abreast of its developments, visit [digitalurbantwins.com](https://digitalurbantwins.com) or follow the project on Twitter (@Dueth2020)

### Notes to Editors

For more information please contact Lieven Raes [lieven.raes@vlaanderen.be](mailto:lieven.raes@vlaanderen.be)

Project website is available at <https://www.digitalurbantwins.com/>

DUET is a 36-months project that launched in December 2019

DUET has received funding from the EU Horizon 2020 Research & Innovation Programme under Grant Agreement No 870697

## Appendix C: Blog Post

### How DUET Digital Twins advance policy development in the age of big data

DUET is designed to advance policy development in the age of big data and cloud, to deliver a trusted, scalable and transferable Digital Twin solution for accelerating the adoption of data-driven, collaborative decision making and policy-making. It is designed to stimulate the creation of collaborative and innovative solutions to multi-disciplinary and multi-sectoral societal challenges by making it easier for policy makers and their stakeholders to access, visualise and use a wide variety of big geo-data sources to explore and co-create policy in the key Horizon 2020 target areas of transportation, environment and health.

Using DUET's Digital Twin approach means policy-making no longer needs to be based upon static models of consultation and closed planning over a timeframe of a year or more. Traditional ways of decision making are often siloed and slow, with thinking and solutions out-of-date by the time policy is ready to be implemented. Yet the world has changed; technology has changed the way we work, live and communicate, so solving society's problems in old ways no longer works. Whilst many administrations are utilising a number of innovative solutions to combat multidisciplinary urban challenges (e.g. variable congestion charging to reduce traffic jams, improve air quality and reduce air-related disease) no-one is yet harnessing the full disruptive power provided by combining big data and HPC advanced analytics to develop solutions that enable the collaborative exploration of the systemic impacts of city decisions, utilising the knowledge and experience of a range of urban stakeholders.

DUET's use of Cloud truly changes the game, disrupting the field of Smart Cities and transitioning to a new age of Responsive Cities. With Responsive Cities, solutions are not designed around citizens, they are designed with the citizen placed firmly at the centre of the action. Where Smart Cities are technology driven and produce large amounts of data from fixed or centrally controlled sensors, Responsive Cities recognise that citizens are also a major player in data generation which helps to shape real-time city decisions.

Embracing the Responsive City concept, DUET's Digital Twin infrastructure uses HPC, AI and other advanced analytics to utilise raw big data and simulate policy impacts via its 3D and 2D interfaces. This enables users (e.g. policy makers, administrative workers, emergency services, charities, entrepreneurs, corporates and citizens) to explore the knock-on effects of decisions on other areas of the city and other sectors (e.g. planning, fire and public safety, transport, social care, waste management etc). These visual interfaces can be explored individually on a user's chosen device, or blown-up on life-size screens and used for immersive co-creation purposes which bring to life the tangible, systemic impacts of different policy options on the city experience. These fuel 'what if' experimentation that unleashes the creative and innovative qualities of all participants and brings a whole new dimension to stakeholder engagement and consultation.