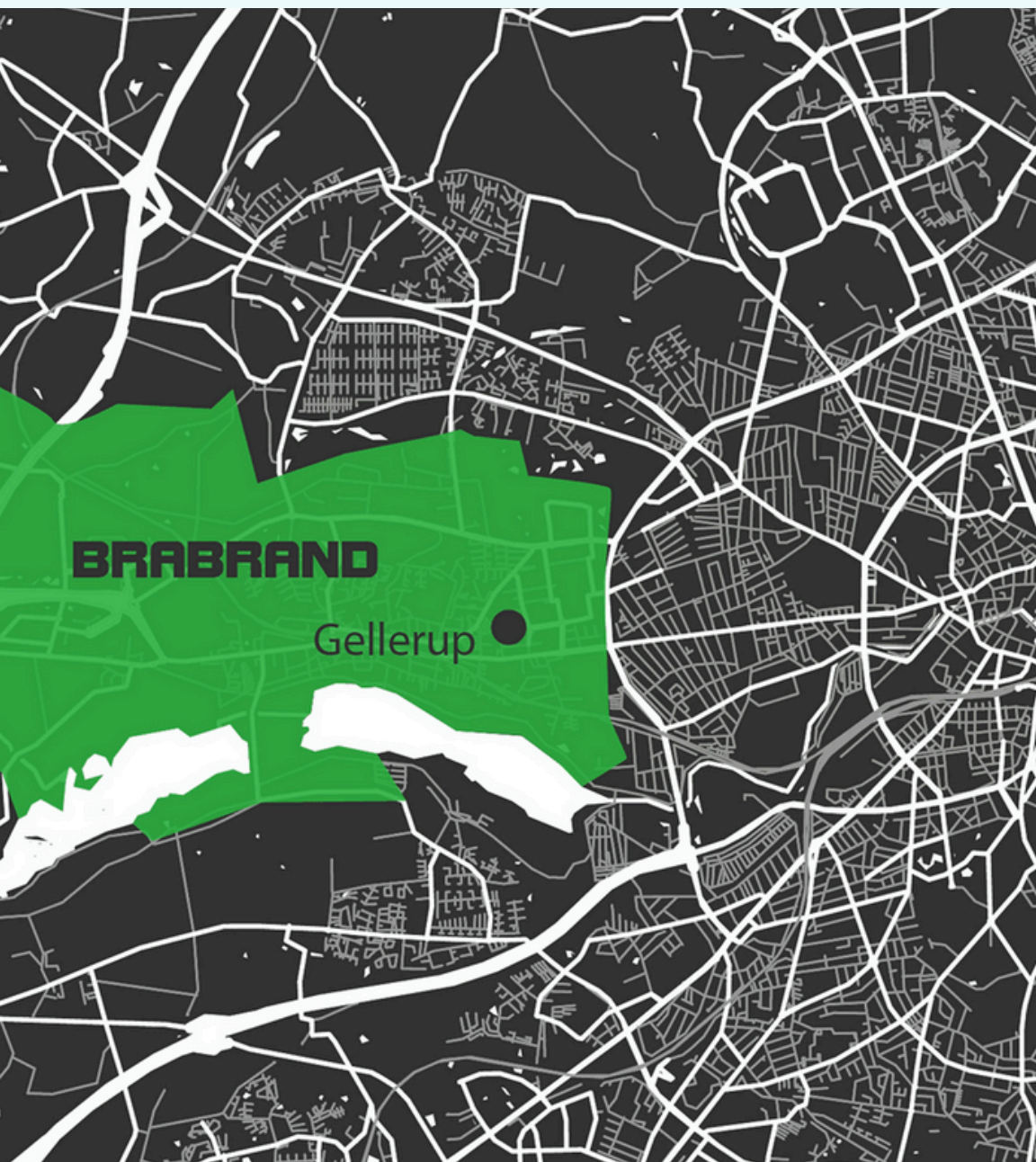# BIPED Community

Visualised steps and guidance in PED stakeholder mapping **&** *a framework with tools for engaging PED stakeholders*

BIPED Community

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Visualised steps and guidance in PED stakeholder mapping **&** a framework with tools for engaging PED stakeholders

Text:
Johanne Bräuner Nygaard Hansen
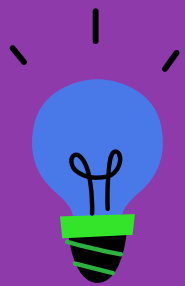Iben Uldahl Søndergård
Rina Vijayasundaram

Design:
Johanne Bräuner Nygaard Hansen

CONTENT

1. INTRODUCTION

BIPED – Building Intelligent Positive Energy Districts - is a new solution to fast-track energy transition powered by Digital Twins (5).

Positive Energy Districts (PEDs) are urban areas where energy produced during the year is the same as, or greater than, energy consumed. The BIPED project is building intelligent PEDs to assist cities with decarbonisation efforts aimed at reaching net zero by 2030.

To make BIPED a success, the projects depend on effective stakeholder engagement!

The BIPED Community Engagement aims to ensure involvement of a wide range of stakeholders, allowing '*any group or individual who can affect or is affected by the achievement of the project's objectives*' (1) to help shape outcomes that align with their needs and preferences.

This booklet aims to guide you through the process of working with PED stakeholder mapping and engagement in BIPED, in the Brabrand area, and the City of Aarhus.

Read more: https://www.bi-ped.eu

Hope you will feel inspired!

2. THE IMPORTANCE OF THE BIPED COMMUNITY

BIPED will make its digital twin solution human-centric by design, a principle reflected in all pilot phases, as evidenced by the use of a quadruple helix model, design thinking, gamification, and community-driven urban planning that leverages 3D modelling to allow citizens to design neighbourhoods that they want and need while taking into account available resources and planning requirements.

Delivering on this ambition will not be possible without a considered and dedicated stakeholder engagement strategy. BIPED will rely on well-known concepts and methods to make sure the right stakeholders are engaged at the right time throughout the project (3 & 4).

Human-in-the-loop in digital twin development

In order to ensure inclusive, equitable, and productive community engagement, BIPED will build a framework with tools particularly for engaging PED stakeholders - the framework will be expanded upon and revealed in the upcoming pages.

3. WHO ARE THE BIPED STAKE-HOLDERS AND END USERS?

A requirement in BIPED is to have a high level of stakeholder involvement for validation. And the project aims to have early and continuous engagement activities designed to support the integration of stakeholder and end user needs and preferences into the PED solution. The BIPED project has identified four major stakeholder groups:

1. **Public sector decision makers**
2. **Private enterprises**
3. **Citizens, communities & local interest groups**
4. **Innovation communities**

Group description	Dissemination action	Main message
1) Public sector decision makers in charge of urban planning and policies designed to make cities more sustainable places to live, work and invest in.	Policy briefs & round tables with quadruple helix actors. Test clinics & live demos of digital twins at policy events. Case studies with results & lessons.	BIPED provides a cost-effective sandbox environment for PED development. A range of plausible scenarios are proposed based on budget & policy needs.
2) Private enterprises specialising in construction, renovation, solar panel development, mobility.	Business forums & trade fairs attended by green economy representatives & urban solutions providers.	BIPED shows where the real energy needs are so that optimal solutions can be developed.
3) Citizens, communities & local interest groups that want to further their city's green agenda.	Meet-ups, newsletters, social media & testimonials that show benefits of climate neutral cities	Use BIPED to co-create a Local Green Deal & enjoy co-benefits: a better living standard, good air
4) Innovation communities e.g. SMEs, institutes, and standards organisations working on data standards for smart cities.	Publications and open repositories that publish BIPED data, source code, and case studies for everyone to reuse	Learn from BIPED's successful PED deployment to make your city climate-neutral one district at a time

BIPED

Many definitions of 'stakeholders' and 'end users' are circulating. Stakeholders and end users are closely related, however there are subtle differences. The BIPED project does not rely on any specific definition, but is trying to understand who the stakeholders and end users are - and that is what is important to the value creation process while ensuring alignment in the PED solution.

Stakeholders are those who help to co-create results and have an interest in the project outcomes: they share the project vision. In that context, BIPED tend to rely on Freemans (1) definition of stakeholders, as it result in a longer list of stakeholders including those without any obvious power to impact the organisation:

Stakeholder Definition:

'... any group or individual who can affect or is affected by the achievement of the project's objectives'

- R. Edward Freeman

BIPED Stakeholders!? Well, now it makes more sense!

End users, on the other hand, are primary beneficiaries with a demonstrable commitment to use results to achieve x, y, z. End users can differ depending on results. For example, it is probably safe to claim that the City of Aarhus as a whole is the main end user of the BIPED results.

The definition of the end users and their needs are still in progress in BIPED, but the technical part of the project is using the familiar standard format of user stories to describe the requirements of the different user types: As [User], I want [to perform this action] so that [I can accomplish this goal].

Therefore, a rough definition of a "BIPED end user" could be inferred as follows:

End User Definition:

"... the ultimate user for whom the BIPED digital twin platform is designed"

BIPED End Users !?
Oh, now I see, so the end users' feedback helps to ensure that the BIPED digital twin as a platform is actually used by the people who need it.
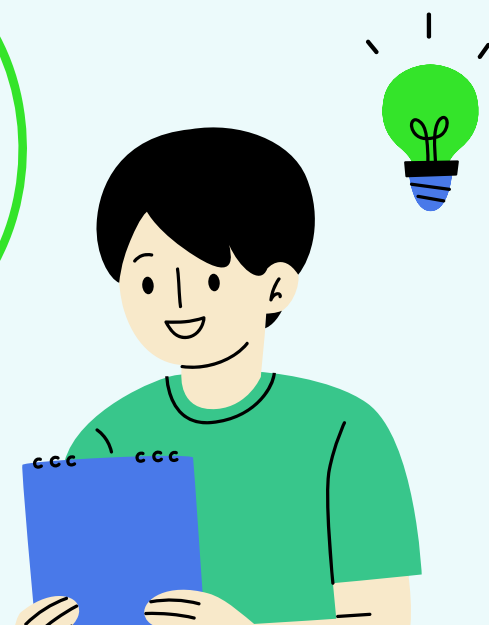
4. MEET PED STAKEHOLDERS IN THE CITY OF AARHUS

Try and find some inspiration for your city among some of our PED Stakeholders below:

Søren Winther Lundby, Energy & Environmental Consultant, The City of Aarhus

"Localized energy solutions will play a crucial role in our overall energy and climate initiatives in the coming years, as will advancements in data and digitalization. We need a finely-tuned, electrified energy system capable of integrating substantial amounts of renewable energy both locally and broadly. This is why the BIPED project aligns perfectly with our goals."

Sun Above Brabrand

"As a fairly newly started association, it means a lot to us to have good partners with big visions. It is inspiring to experience a community of values on the way to development and new results"

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BIPED

Pernille Thorsen, Team lead, GovTech Midtjylland (GTM)

"In GovTech Midtjylland, our focus is on making data-driven decisions, especially concerning buildings. The BIPED project is valuable to us because it broadens our scope beyond the single buildings we typically work with, allowing us to consider the external factors that could provide beneficial insights for our work"
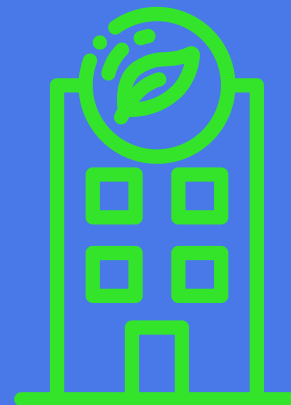
Gustav Friis, Project Manager, the Mobility Department, The City of Aarhus

"In the Mobility Department of Aarhus Municipality, we are investigating how digital twins can help create and communicate ideas in the field of mobility, ensuring a just and green transition for the city. BIPED is among several projects where we are trying to use traffic data in a new way. The journey has just begun, but I believe it can help provide answers to a number of questions about the city's continued development"

5. STEPS AND GUIDANCE IN PED STAKEHOLDER MAPPING

When mapping PED stakeholders, consider the following 6 steps and guidance:

1 District Mapping and Identification

2 Identify Stakeholder groups and individuals

3 Create stakeholder list
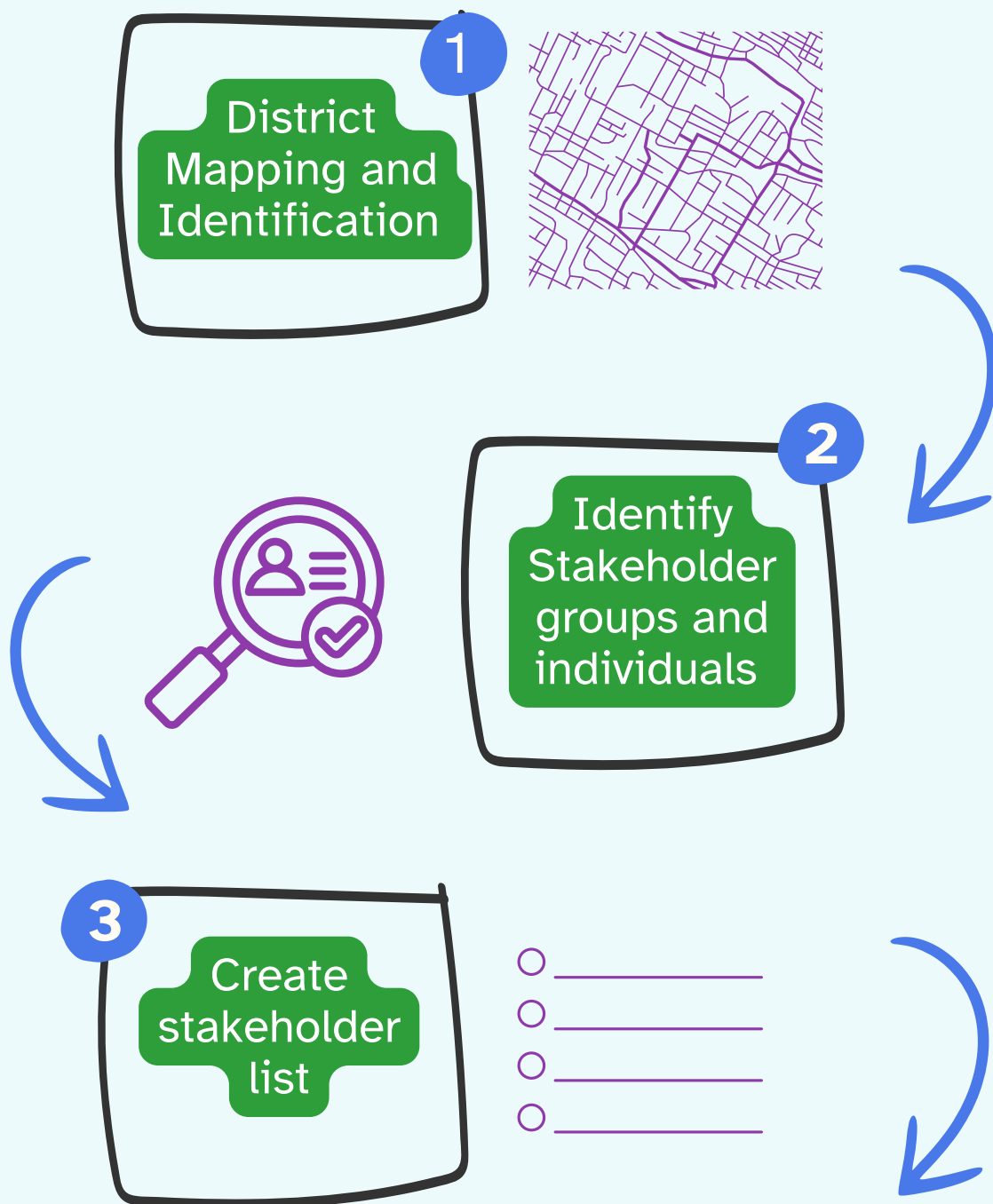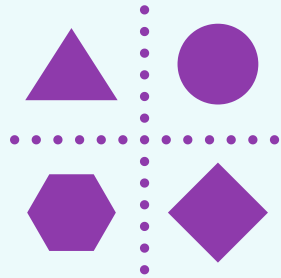
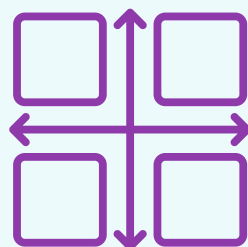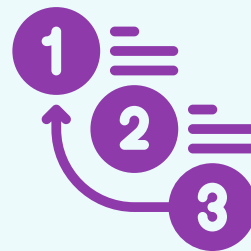**4** Categorisation of Key Stakeholders

5 Prioritize and Analyse stakeholders

6 Develop and finalizing Stakeholder Map

NEXT STEP: BUILDING AN ENGAGEMENT FRAMEWORK

District Mapping and Identification
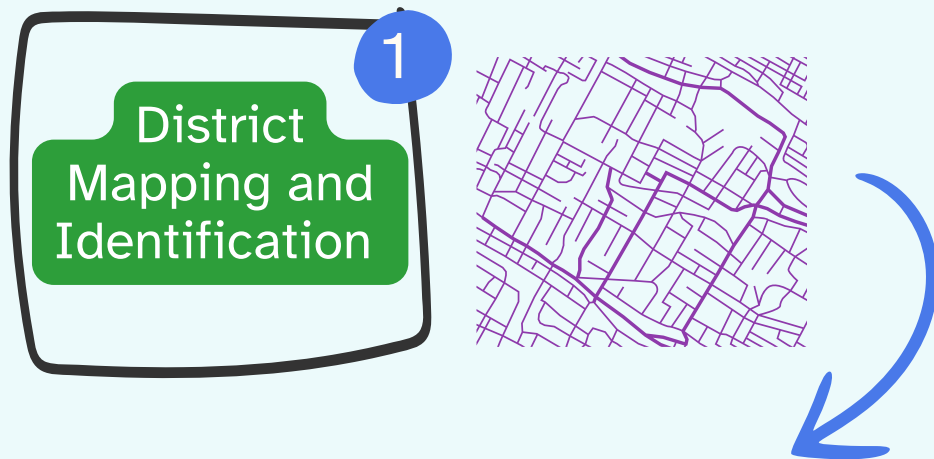
✅ What is it and why use it?

District Mapping and Identification ensures alignment among the technical development and stakeholders engagement in a PED project. In the process of identifying the Positive Energy District (PED) in BIPED, two significant advances emerged:

1) Identifying the district served as the starting point for the Stakeholder Mapping and Community Engagement. It kick-started the process of creating the stakeholder list within Aarhus ect.

2) Gaining clarity on the specific areas from which we needed to obtain data also kick-started the data acquisition from both a city and project perspective.

✅ How to use it?

District Mapping and Identification refers to the process of identifying unique geographic areas in a PED project. In BIPED, we used district mapping and identification to define:

1. **Building Selection:** Which buildings should be part of the district?
2. **Connectivity:** Should the district be interconnected, or can it consist of fragmented parts within Brabrand?
3. **Size Considerations:** Is there a limit to the district's size?

✅ Tips for success

Ensuring alignment among partners in the process of identifying the Positive Energy District (PED) is very important. In the BIPED project, all project partners were engaged in a collaborative process and each partner contributed with valuable feedback on 'what, why and how'.

2

Identify Stakeholder Groups and Individuals

✅ What is it and why use it?

Stakeholders are individuals or groups with a vested interest or influence in a project's outcome. When stakeholders are not accurately identified, the project and its results may fail to meet all stakeholders' expectations and address their concerns. One of the key stakeholder identification steps is a brainstorm session: listing potential stakeholders related to your project.

✅ How to use it?

Create a 'Stakeholder Workshop' brainstorming on all possible and different types of stakeholders.

We organized a Brainstorming Session and included people who could provide different perspectives related to the BIPED project. Their insights helped us identify stakeholders effectively.

In a brainstorming session, participants can jot down ideas on colorful Post-it notes. These sticky notes are then organized, discussed, and refined to spark creativity and problem-solving.

✅ Tips for success

Invite partners from different areas of the project to help identify stakeholders. It is better to have to many stakeholders than a few, and you can group them later.

3

Create Stakeholder List
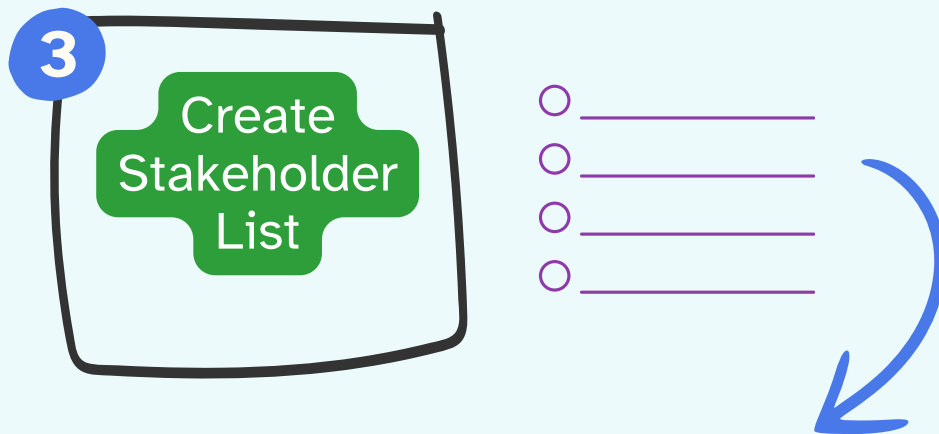
✅ What is it and why use it?

A stakeholder list is a document, for example organized in an Excel sheet, used to identify and categorize all the key players involved in a project or organization. These individuals or groups can be either internal or external - in this booklet, we focus on local stakeholders in Aarhus. The list includes essential details about these stakeholders, including their roles, contact information, and interests related to the project.

A well-constructed stakeholder list offers several benefits. It provides a clear overview of all stakeholders, minimizing the risk of overlooking critical individuals for project success.

✅ How to use it?

Keep track of all identified stakeholders with names, contact information etc. When you have had the first contact with the stakeholder, make sure to write all their details in the document. It helps you when you need to find the documentation later.

✅ Tips for success

Making sure the list is maintained during the project. Easy acess to stakeholders is important.

4

Categorisation of Key Stakeholders
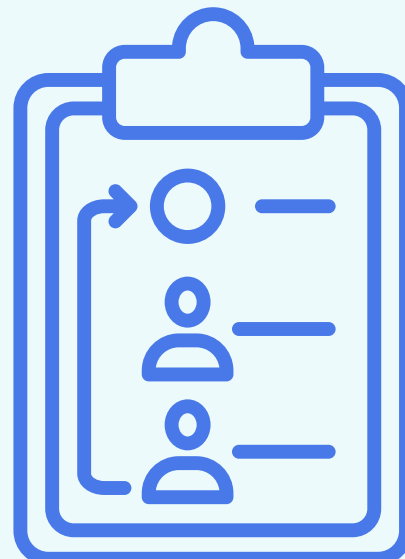
✓ What is it and why use it?

When you have a long list of stakeholders, it can be difficult keeping an overview of them. And therefore it is important to categorize them (4). When you categorize your stakeholders, it provides an overview to ensure that you've identified stakeholders from various stakeholder groups. This helps you understand the diverse perspectives and interests involved.

✓ How to use it?

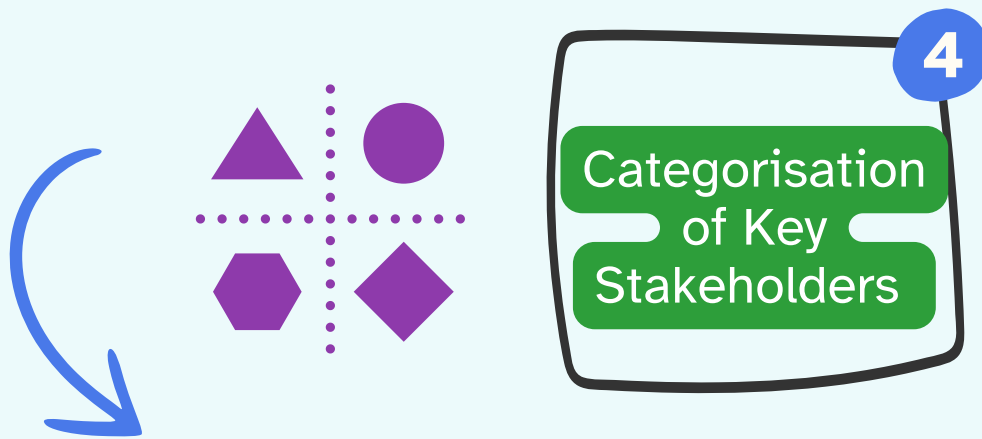When considering the different major groups you'd like to work with, it's important to recognize that the composition of these groups can vary from project to project. Some projects may require a smaller, more focused group, while others might benefit from a larger, more diverse team. Ultimately, tailoring your group size and composition to the specific context and goals of each project is key.

✓ Tips for success

It's essential to align with your project partners and ensure that you have stakeholders represented in all your groups. Having diverse perspectives and engaged stakeholders contributes to successful project outcomes.

| Group 1 | Group 2 | Group 3 | Group 4 |

5 Prioritize and Analyse Stakeholders

1
2
3
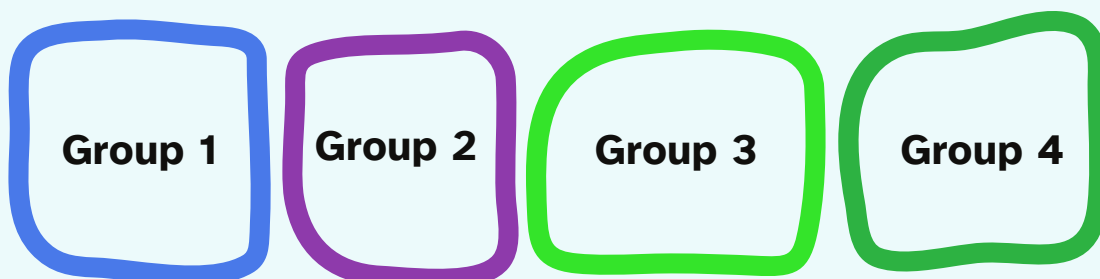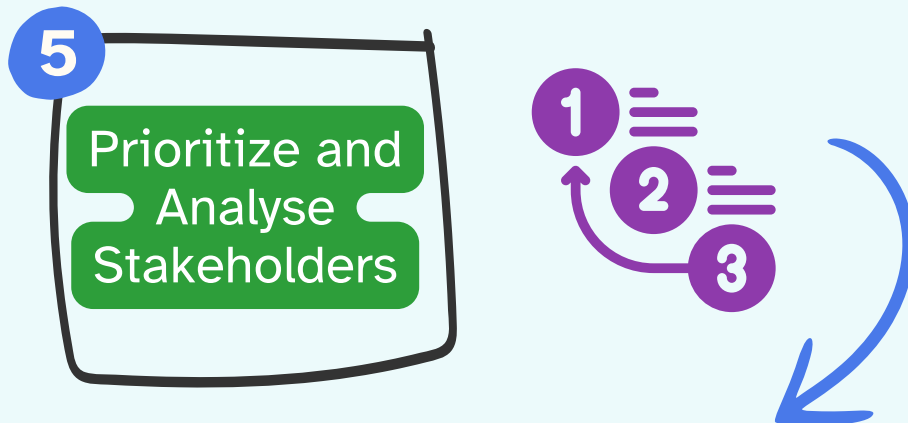
✅ What is it and why use it?

The MoSCoW method is valuable because it categorizes project requirements into four priority levels: Must-Haves, Should-Haves, Could-Haves, and Won't-Haves. By doing so, it ensures that essential elements are addressed first, resources are allocated efficiently, and project goals are achieved effectively within constraints. This approach enhances focus and manages expectations throughout the project lifecycle.

✅ How to use it?

Categorizing stakeholders is a valuable strategy for effective project and stakeholder management. By placing stakeholders into different groups, you can prioritize tasks and allocate resources efficiently. This ensures that essential goals are addressed promptly.

✅ Tips for success

Alignment within your project and with project partners.

Mo	**S**	**Co**	**W**
Must have	Should have	Could have	Wont have

Develop and Finalize Stakeholder Map
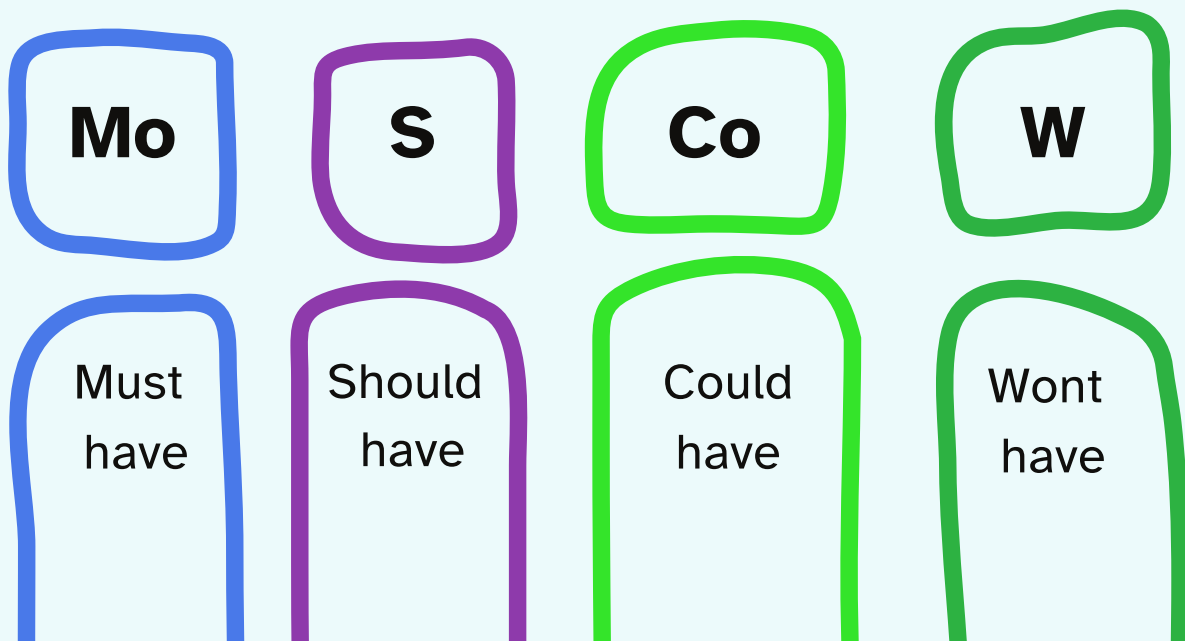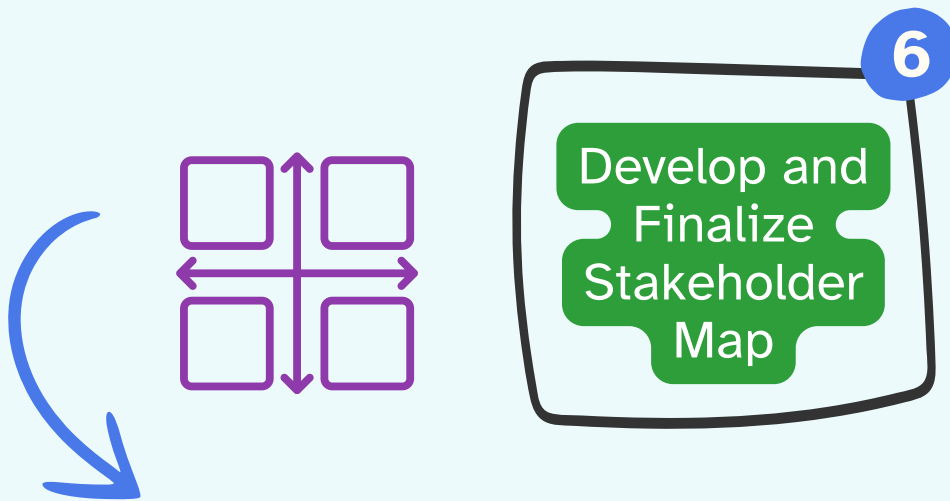
✓ What is it and why use it?

Stakeholders can vary in their level of influence and interest in the project. A stakeholder map helps categorizing them, using a matrix that plots stakeholders based on their power and interest. This prioritization ensures that resources and efforts are focused on the most critical stakeholders.

✓ How to use it?

Be flexible and ready to adjust your stakeholder management approach based on feedback and changing circumstances. This dynamic process ensures that stakeholder engagement remains effective and relevant throughout the project lifecycle. Remember that a stakeholder can move around during a project depending on where your project are in its cycle and phases.

✓ Tips for success

Allowing stakeholders to self-identify their category is indeed a valuable approach. It ensures alignment and avoids assumptions. However, there may be cases where stakeholders perceive their role differently from the project manager's assessment. Open communication and regular feedback can help bridge any gaps and ensure effective collaboration.

High   **Power**

Interest

Low
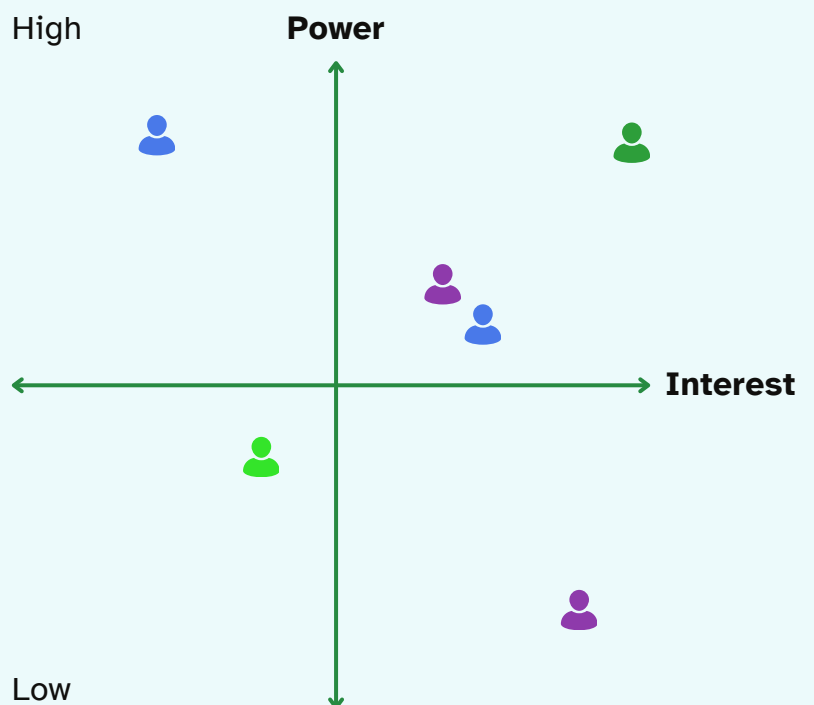
Tools for engaging PED stakeholders?

6. TOOLS FOR ENGAGING PED STAKEHOLDERS

Engaging stakeholders effectively requires the use of various tools and techniques that cater to different types of stakeholders and their unique needs. Here are some common tools for engaging stakeholders:

- Face-to-face communication/ meetings (in person)
- Video calls (online)
- Phone calls
- Text messages
- Instant messaging
- Emails
- Live chat
- Social media
- Knowledge database
- Online communities
- Corporate / Website blog
- Trade fair appearances
- Workshops
- Newsletter
- Internet
- Meeting Minutes
- Forums
- Surveys
- Booklet
- Data collection
- Public comment
- Meetings
  - Staff meeting
  - Plan meetings
  - Decion-making meetings
  - Consensus meetings
  - Final rewiev meeting

PED stakeholder engagement framework?
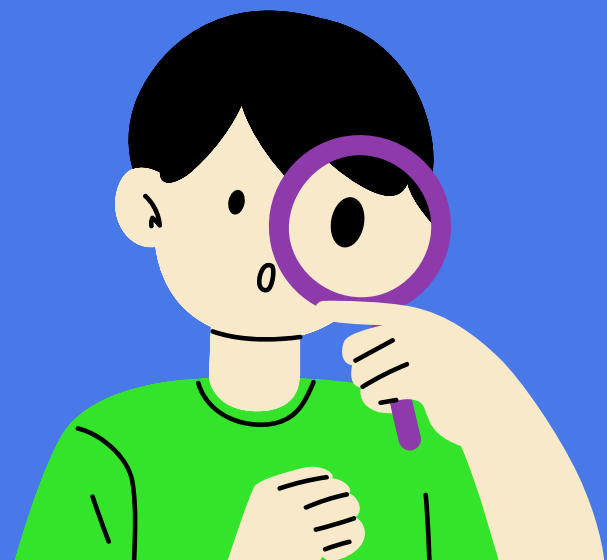
7. PED STAKEHOLDER ENGAGEMENT FRAMEWORK

Creating a stakeholder engagement framework provides a structured approach to gather and consider diverse perspectives, leading to more informed and balanced decision-making. Engaging stakeholders early and throughout the project can reveal potential risks, opportunities, and innovative solutions that might otherwise be overlooked.

Working with stakeholder engagement frameworks also provides a clear plan for communication, ensuring that information is shared effectively and consistently. This helps prevent misunderstandings, manages expectations, and keeps everyone informed of progress and changes.

Stakeholder and end user involvement → | ← **Technical / data development of the digital twin**
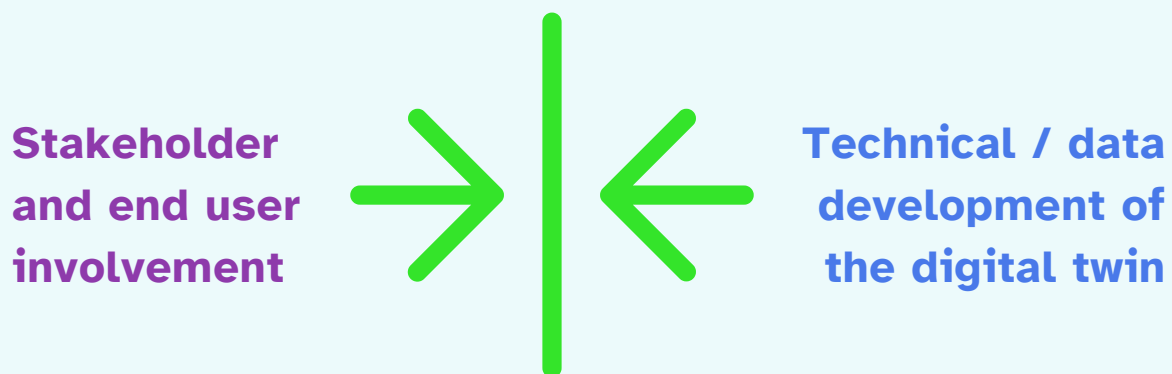
Stakeholder and end user alignment in the BIPED project

Stakeholder and end user involvement is important in the BIPED project, ensuring that the PED and the technical / data development of the digital twin aligns with local needs, fosters community support, and addresses specific challenges within the Brabrand area and the city of Aarhus.

More specifically, the mapping, engagement, and involvement of stakeholders and end users provide essential data, context, and validation for an accurate and effective digital twin.

BIPED

The stakeholder mapping in BIPED serves as a foundational step in creating a stakeholder engagement framework. By identifying and categorising stakeholders based on their influence and interest, we pave the way for effective collaboration. The engagement framework provides a clear structure for interactions, ensuring that all stakeholders understand their roles and responsibilities, and aligns everyone towards common goals, preventing misunderstandings and conflicts in BIPED.

The framework in BIPED is divided into 4 different categories:

1. Stakeholder	2. Communication plan	3. Engagement	4. Stakeholder management
This category focuses on identifying and understanding key stakeholders in BIPED. It includes stakeholder mapping, assessing their interests, and determining their influence on the project.	The communication plan is the strategic blueprint that outlines how information will be exchanged among the BIPED project team and stakeholders. It covers channels (e.g., meetings, emails), frequency, and content.	Engagement involves actively involving stakeholders in e.g. decision-making. It includes feedback loops, consultations, collaboration, and levels of engagement.	This category encompasses overall stakeholder coordination. It includes planning, execution, monitoring, and risk management as well as choosing the right management tools.
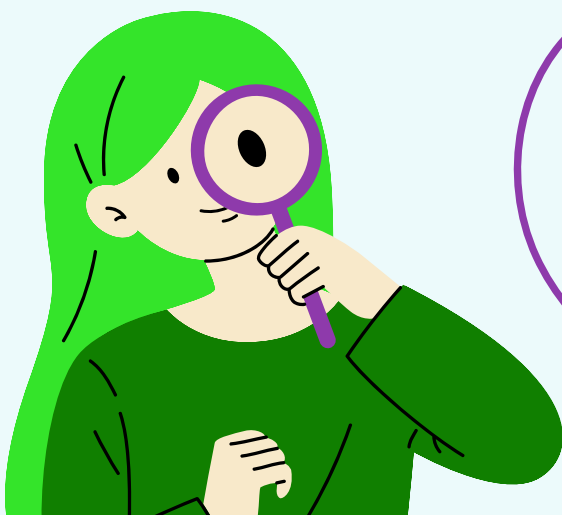
Oh! I see, each category emphasizes different stakeholders and outcomes, ensuring effective engagement within diverse contexts.

How? Using an Excel sheet for a stakeholder engagement framework is a practical way to organize and manage stakeholder information:

- Create column headers for relevant stakeholder details
- Fill in the rows with stakeholder information. Add new rows for each stakeholder

Here's how BIPED has structured the projects stakeholder engagement framework using an Excel sheet based on the four categories already mentioned – including a row with explanations or question to be asked in each subcategory:

Stakeholder				
Stakeholder	**Description / Idendentification**	**Sector / Stakeholder Type**	**Is the Stakeholder an End User**	**End User Description**
Stakeholder name ?	Who, What, Where, When and Why ?	1) Public sector decision makers 2) Private enterprises 3) Citizens, communities & local interest groups and, 4) Innovation communities	Yes / No	How can the stakeholder use BIPED?

Stakeholder (continued)			
MoSCoW Prioritization	**Level of Interest**	**Level of Power**	**Areas of Interest/Power**
The acronym MoSCoW represents four categories of initiatives: must-have, should-have, could-have, and won't-have, or will not have right now	Prioritise the stakeholder by means of Interest - Very High, High, Medium, Low, Very Low	Prioritise the stakeholder by means of Influence - Very High, High, Medium, Low, Very Low	A. Keep satisfied (Pi) B. Actively engage (PI) C. Monitor (pi), D. Keep informed (pI)

Communication

Engagement Tool/Approach	Message customisation / tailoring	Frequency and timing:

• Face-to-face communication / meetings (in person)
• Video calls (online)
• Phone calls
• Text messages
• Instant messaging
• Emails
• Live chat
• Social media
• Knowledge database
• Online communities
• Corporate/Website blog
• Trade fair appearances
• Workshops- Newsletter
• Internet
• Booklet
• Meeting Minutes
• Forums
• Surveys
• Data collection
• Public comment
• Meetings
   ○ Staff meeting
   ○ Plan meetings
   ○ Decion-making meetings
   ○ Consensus meetings
   ○ Final rewiev meeting
	Providing relevant and timely information that meets their needs and expectations. We need to identify what information each stakeholder needs, wants, and expects from us, and how often they need it. Consider factors such as their demographics, roles, interests, knowledge level, communications preferences, and challenges they might face. Understand the cultural context of our stakeholders and which language and tone to use.	Daily, Weekly, Monthly, Quaterly, Regular updates, As-needed communication, Getting information earlier than others.

Sure, now I can visualise how to adapt the framework to my specific project!

Engagement

Level of engagement	Stakeholder Expectations	User Expectations	Project (BIPED) Expectations	Stakeholder impact	Feedback (formative evaluation)
Inform: To provide the public with balanced information Consult: To gather feedback from targeted stakeholders Involve: To work directly with stakeholders continuosly Collaborate: To partner with stakeholders in each aspect of the decision Co-Lead: To place final decision-making in the hands of stakeholders	What are the expectations of the stakeholder?	What users expect from the digital twin platform?	What do we want from the stakeholder?	Refers to their ability to change the result of the project	The process of gathering and analyzing feedback addressing ongoing and early challenges or issues

Stakeholder Management

Owner	Project Management Tool	Notes
The person accountable for the contact and process	Managing the proces with Excel, MS Planner evt	

Tips for success

- Keep the Excel sheet up-to-date as you engage with stakeholders
- Regularly review and adjust based on changing needs
- Adapt the framework to your specific project and organizational context

8. AND THEN WHAT?

It is important to note that working with stakeholder mapping and engagement frameworks is a living tool that you will have to revisit again and again during your project. Stakeholders can move around in the stakeholder mapping you made during a project, and their interest can change. Stakeholder engagement follows a life cycle, much like a project. Here are the key stages that we focus on in BIPED:

05 Feedback and Planning

Analyze feedback for opportunities, define actions, review goals, plan next steps, and maintain ongoing stakeholder alignment and responsiveness.

01 Visions

Set vision and level of ambition for future engagement, and review past engagement. Setting the vision in the stakeholder engagement life cycle involves defining project goals, identifying relevant stakeholders, understanding their needs, and creating a communication strategy

04 Active Engagement:

Conduct the engagement itself, ensuring equitable stakeholder contributions and mitigating tension while remaining focused on priorities. This is the stage where stakeholders actively participate in project activities. You collaborate, seek their input, and address their needs. Effective communication and relationship-building are crucial during this stage.

02 Identify and prioritise

Define criteria for identifying and prioritising stakeholders, and select engagement mechanisms. At the beginning of a project, you identify the people impacted by your work. Stakeholders may also self-identify and express interest in being involved. During this stage, you establish goals, objectives, and working relationships with stakeholders.

03 Set Goals and Early Engagement:

Focus on long-term goals to drive the approach, determine logistics for the engagement, and set the rules. As new stakeholders join the project, you learn about their communication preferences, management style, and work context. Understanding their motivations and concerns helps you tailor your engagement approach.

The Stakeholder Engagement Life Cycle

"

Cities don't just become climate-neutral at once. It's a gradual process that starts at the grassroot level and works its way to the top, covering ever more sectors, dimensions, and areas that make up the urban fabric. At BIPED, we help cities to complete this journey through a community-driven systems change that is green, digital, and just ...

- Martin Brynskov
BIPED Coordinator
Technical University of Denmark (DTU)
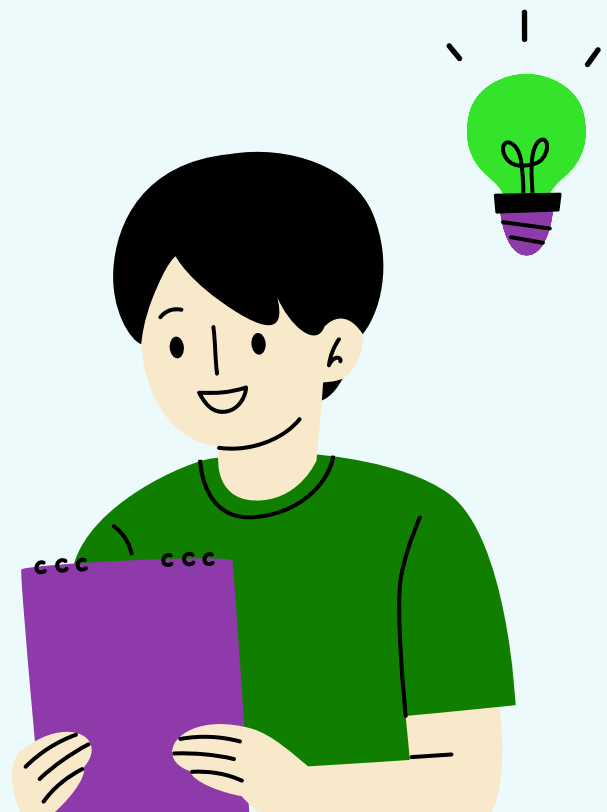
9. LITERATURE

1) Freeman, R.E., 1984. Strategic Management: a Stakeholder Approach. Pitman Publishing, Marshfield, Mass, p. 60.

2) The Aarhus Compass: https://faellesomaarhus.aarhus.dk/media/us3jfyx5/aarhuskompassetlight-uk.pdf

3) CFIA: The center for innovation in the city of Aarhus: https://cfiaarhus.dk/

4) Urbact tools for engaging stakeholders: https://urbact.eu/toolbox-home/implementing/stakeholders-powerinterest-matrix

5) BIPED website: https://www.bi-ped.eu

You don't need to 'Google it'. Look here!