



UNIVERSITY OF SOUTHERN DENMARK

Group 4

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PROJECT MANAGEMENT 1: GO-TO SCIENCE FOR TEENAGE GIRLS

Submitted By:

Anne Mia Storm Pedersen

anped21@student.sdu.dk

Sebastian M.B. Larsen

slars23@student.sdu.dk

Christian Høgh

choeg23@student.sdu.dk

Simone I. Lebech

sileb18@student.sdu.dk

Mads Mikkelsen

mmikk23@student.sdu.dk

Tobias N. F. Janum

tojan23@student.sdu.dk

Rikke Aa. Boysen

riboy22@student.sdu.dk

1 Executive Summary

Despite growing attention, women remain under-represented in STEM. This project, developed under the High5Girls (H5G) initiative, aims to address the under-representation of women in STEM by engaging girls aged 13–16 through a hands-on, after-school event series. The initial project focuses on robotics, combining accessible learning with mentorship from female STEM role models to foster curiosity, skill-building, and confidence in science and technology.

The primary objective is to inspire long-term interest in STEM, while building a supportive community among attendees. Each series consists of five sessions, combining theory and practice to guide the girls through the creation of a product using Arduino and basic electronics.

A make-or-buy analysis concluded that all materials, including electronic components, snacks, promotional items, and venue space, should be procured externally for efficiency and quality assurance. Procurement is managed through fixed-price contracts, ensuring cost control and minimizing financial risk.

The total project budget is set at 25,000 DKK, funded entirely through sponsors. Risks such as supplier failure or resource gaps are mitigated through structured procurement planning, role assignment via a RACI matrix, and resource tracking through a detailed Resource Breakdown Structure (RBS).

Feedback will be collected post-event to assess impact, with a target of 80% positive responses. If successful, this model can be replicated and expanded across other STEM topics and regions, further amplifying its positive impact.

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2 Project Description

Empowering girls through Hands-on Science is a recurring after-school event series designed to engage girls aged 13 to 16 in STEM, initially focusing on robotics. The goal is to create a fun, supportive environment where attendees explore STEM and develop skills in programming, mechanics, and sensor technology. Structured like other extracurricular activities, events are developed in collaboration with robotics engineers and feature interactive, age-appropriate content that fosters curiosity and confidence. The project includes event logistics, school and community outreach, and ongoing evaluation to refine future sessions. The initiative aims to spark sustained interest in STEM and contribute to long-term gender diversity in science and technology fields [1]. A full overview is provided in Appendix A.3.

2.1 Business Case

This initiative meets a clear need: increasing female STEM participation by engaging girls at a key age. Based in Odense and free to attendees, the project is supported through sponsorships and volunteers. Unlike traditional programs, it combines high-quality STEM content with a strong social mission. With a startup investment of 25,000 DKK, the low-cost, partnership-based model ensures sustainability. The program promotes STEM literacy, builds confidence, and supports gender equity in science. Long-term, it aims to offer a scalable, adaptable model for future science themes. A summary of the business case appears in Appendix A.7 as Table 8.

2.2 Key Challenges

Key challenges include attracting attendees in a competitive extracurricular environment, ensuring operational sustainability with volunteer support, and managing logistics like scheduling or material availability. These are addressed through focused outreach, strong partnerships, and flexible planning. As the project scales or evolves, maintaining quality and relevance will require structured evaluation and adaptation. Despite these challenges, the initiative is well-positioned to advance gender equity in STEM through early engagement.

2.3 Project Status

The project has been piloted once with positive feedback and is in ongoing development. It continues to evolve based on attendee and stakeholder input and is regularly evaluated to ensure relevance and impact.

3 Project Charter

The project charter formally authorizes the project and outlines key elements [2]. It includes the purpose, objectives, scope, stakeholders, and high-level requirements. The charter can be considered as the formal agreement and a guide for the project team, as it outlines budgets, responsibilities, and thus serves as a reference throughout the lifecycle of the project. The full project charter can be found in Appendix A.6 as Table 7.

4 Organizational Structure

The organizational diagram in fig. 1 illustrates the project’s structure, dividing tasks into three key branches: course development, outreach (encompassing recruitment, marketing, and social media), and administration (responsible for funding, planning, and coordination).

To maximize individual contributions and foster effective collaboration within this newly formed team, personality assessments were utilized to guide role assignments. The resulting team dynamics can be seen in Appendix A.2 as Table 2.

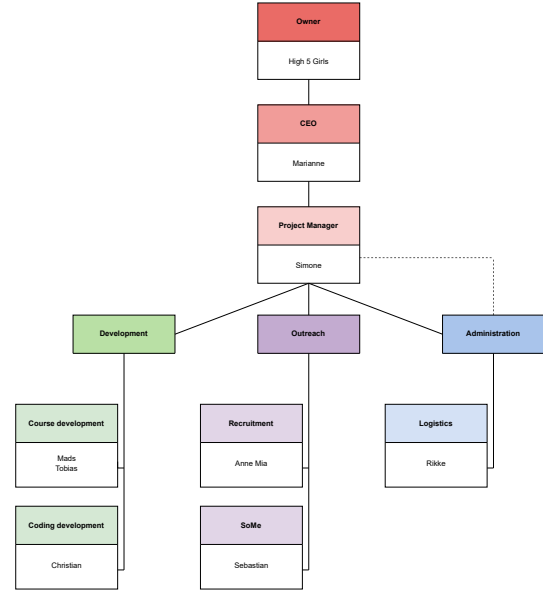


Figure 1: Organizational diagram

4.1 Stakeholders

Stakeholders of the project include High5Girls, Philip Beske-Janssen, students, media, sponsors, attendees, educational institutions, suppliers, policy makers and role models. The stakeholder registry has been created to identify and prioritize stakeholders, see Appendix A.5 as Table 5.

4.1.1 Power Influence Grid

The power-influence grid categorizes stakeholders based on their power and influence to guide engagement strategy and ensure team focus. In this context, power refers to formal authority, control over resources, or access to key information, while influence reflects an individual’s ability to persuade others, leverage networks, or draw on their reputation [3]. The Power Influence Grid as illustrated in fig. 2, places

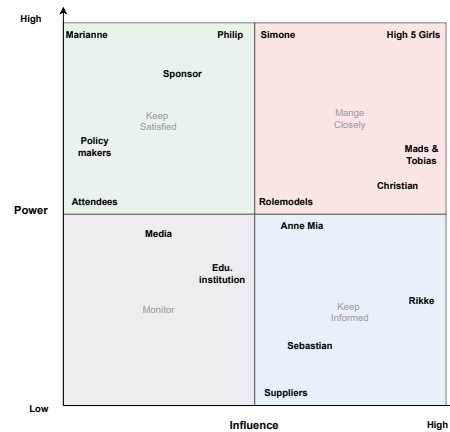


Figure 2: Power influence grid

stakeholders into four main groups. Those in the “keep satisfied” category have high power but low influence; for example, sponsors can withdraw support if dissatisfied but don’t actively shape course content, so they should be kept informed but not involved in planning. The “manage closely” group includes stakeholders with both high power and high influence, such as Mads, Tobias, and Christian, who are integral to content development and decision-making; the course cannot run without their active participation. Stakeholders in the “monitor” category, like media contacts, have minimal power and influence; they are only peripherally affected by the project and only need occasional updates, as they do not impact the work itself. Finally, the “keep informed” category comprises those with low power but high influence, such as Rikke, who is vital for logistical execution. While she doesn’t impact what is taught, if she fails to secure a venue, the event cannot proceed. This framework ensures that each stakeholder’s engagement is matched to their potential impact on the project.

4.1.2 Engagement assessment of stakeholders

An engagement level analysis is used as a way of tracking stakeholders current and desired engagement, and understanding how to move them from their current level, to the desired one [4]. Regular meetings, email updates and feedback sessions are planned to ensure stakeholder engagement and address concerns as they may arise. As an example, consider the role models; They are initially assessed as supportive stakeholders. However, once course development begins, their status shifts to leading stakeholders, since they directly impact what can be taught. Their competencies define the course’s scope, as they are responsible for delivering the content. Throughout the hosting phase, they remain leading stakeholders, as they are also the ones conducting the events. The table for stakeholder engagement assessment can be seen in Appendix A.5 as Table 6.

5 Project Scope

The project scope defines the boundaries and provides clear direction for the project’s progression, offering a valuable overview of objectives and parameters. However, if created too early and not regularly updated, it can become outdated and misaligned with the project’s actual development [5]. A full overview is provided in Appendix A.4.

5.1 Purpose

The purpose of this project is to address the under-representation of women in STEM by offering teenage girls a unique, hands-on opportunity to engage with science in an accessible, engaging environment. By participating in a course series focused on STEM topics, girls will be exposed early to science and technology, helping to spark long-term interest and confidence.

5.2 Goals

The project aims to design and execute a five-part STEM course series for girls aged 13–16, fostering interest, competence, and community around STEM subjects. Each session will combine theory and practice, culminating in the creation of a product involving Arduino microcontrollers and components such as resistors, LEDs, and breadboards. Attendees will influence the design of their projects, encouraging ownership and creativity. The program will be fully funded through sponsorships and volunteer support, with a maximum total budget of 25,000 DKK and a per-attendee material cost cap of 400 DKK. Success will be measured by attendee feedback, where an example of the questionnaire can be seen in Appendix A.13 as Table 16. All materials will be disassembled for reuse unless attendees wish to purchase them.

5.3 Description

This initiative delivers a five-session STEM event series for girls aged 13–16 with little prior experience. Each two-hour session includes theory, hands-on project work with support from volunteer role models, and group reflection. The curriculum, developed with pedagogical and technical experts, includes full documentation and sample code. All activities will be tested to ensure safety and functionality. Project administration covers planning, budgeting, and compliance with H5G financial policies. Fundraising must be completed before purchasing materials, which will be selected for reuse when possible. Role models will be trained and volunteer-led. Milestones include concept development, sponsor outreach, curriculum completion, event execution, and evaluation. Constraints include volunteer availability, timely procurement, and sponsor alignment. Assumptions include local participation and available resources. The project excludes attendee transport, educational follow-up, and registration, which H5G will handle. Competing initiatives include SDU's "IT Camp for piger." Reference materials include H5G standards and sponsor lists.

6 Project Schedule

Project Schedule Management includes the processes required to manage the timely completion of the project. The scheduling of the project includes definition and planning of relevant activities as well as estimating the time needed and creating a timely overview of the complete project [2].

6.1 Work Breakdown Structure

The Work Breakdown Structure (WBS) is a key project management tool used to organize the total scope of work into manageable sections [6]. For this event series, the WBS helps break down the overall objective into five core branches: planning and supervision, logistics, development, outreach, and event execution. These categories cover all essential activities, from initial planning and resource coordination to curriculum design, promotion, and delivery of the events. Each task

within the WBS is assigned a hierarchical number, allowing for easy identification and tracking. For example, tasks under planning are labelled 1.1.x, logistics 1.2.x, and so forth, as can be seen in fig. 3. This structure supports clear communication, accountability, and traceability across the project. The WBS dictionary, found as Table 10 in Appendix A.8, provides detailed task descriptions and expected deliverables. This ensures every team member understands their role and what is required of them. By using the WBS, the team can define the scope, assign responsibilities, estimate time and costs, and track progress more effectively. It also helps prevent scope creep and supports project success through structured planning and oversight [7].

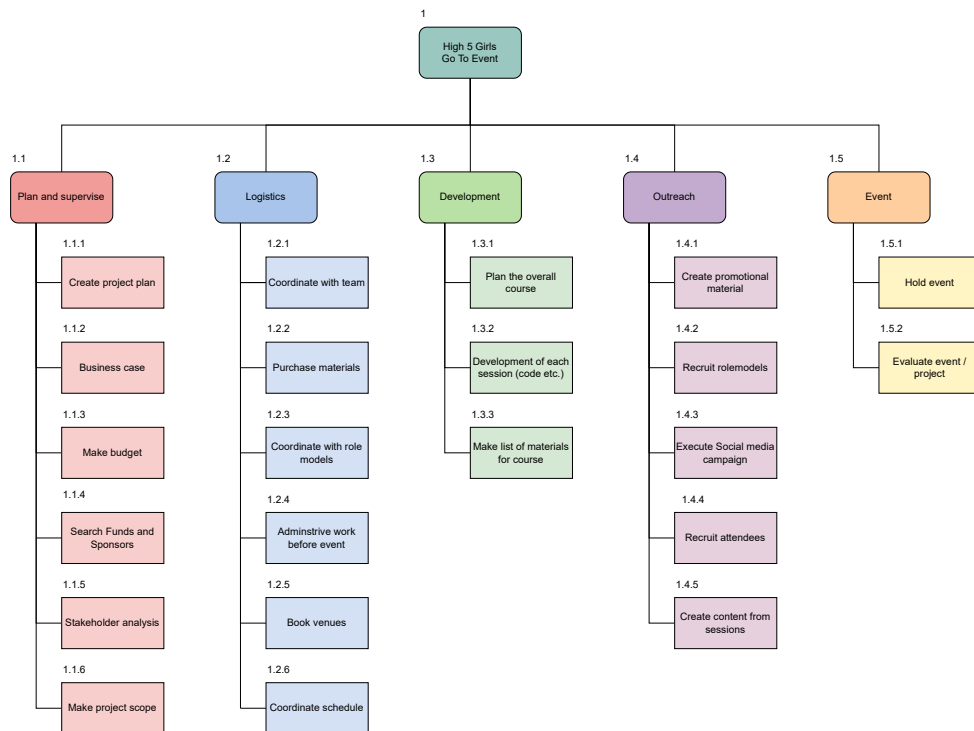


Figure 3: Work Breakdown Structure

6.1.1 RACI

The RACI matrix is a tool used to define roles and responsibilities for each task. It clarifies who is Responsible (completes the task), Accountable (approves and oversees the task), Consulted (provides input), and Informed (kept updated on progress). This structure helps prevent confusion, ensures accountability, and highlights potential bottlenecks or over-reliance on individuals [2]. Each task must have only one accountable person, while others may share responsibilities or be consulted. The matrix also promotes effective collaboration and communication. An example could be the recruitment of role models; The Project Manager is designated as Accountable because they hold ultimate responsibility for the successful outcome of the recruitment process. The Outreach team is assigned as Responsible since their core function is to actively engage with and recruit potential

candidates. Meanwhile, Logistics and Social Media (SoMe) are kept Informed because, while they aren't directly involved in the recruitment itself, they both play crucial supporting roles. Logistics needs to be aware of incoming role models to prepare for onboarding and administrative needs, while SoMe benefits from this information to align their external communications, and potentially support future recruitment efforts. The full RACI table can be found in Appendix A.8 as Table 9.

6.2 Gantt

A Gantt chart is a way to visually represent a project's timeline, helping teams plan, coordinate, and track specific tasks. This is especially valuable for complex projects, as it offers a clear overview of what needs to be done, when, and in what sequence [8]. In this project, the Gantt chart breaks down all major tasks, such as "Create Project Plan," "Develop Business Case," and "Develop Course," into manageable units. Each task is displayed in a table format with columns for task name, duration, predecessors, and a weekly timeline. The chart's timeline runs from Week -8 to Week 23, allowing the planning phase to be captured even before the official project starts (Week 0). These negative weeks indicate preparatory activities completed before kickoff, such as planning, budgeting, and stakeholder analysis. The main project work then continues through Week 23, providing a comprehensive overview of the entire project duration. Instead of using traditional horizontal bars, this Gantt chart uses a table format, where the weeks are marked horizontally, and tasks are listed vertically. This setup clearly shows when each task starts and ends, how long it will take, and any overlaps. Dependencies between tasks are highlighted in the "Predecessors" column, ensuring the correct order and coordination of work. This makes it easy for stakeholders to see which tasks must be completed before others begin and to follow the overall project timeline. The Gantt chart used in this project can be found in Appendix A.9 as Figure 9.

6.3 Network Diagram

The Activity-on-Arrow (AOA) Network Diagram visually represents project tasks and their dependencies, helping to plan and schedule activities, assess project duration, identify the critical path, and manage resources effectively. The critical path is the sequence of tasks that determines the shortest possible time to complete the project. These tasks are highlighted in the diagram shown in Appendix A.9 as Figure 10.

Each node in the diagram represents a task and includes essential details such as Early Start (ES), Early End (EE), Late Start (LS), Late End (LE), Slack/Float (SI), Duration, Activity ID, and a brief description. These elements enable forward and backward pass calculations, which are used to determine the total project duration and available slack for each task.

7	1.3.3	8
3	Make list of materials for course	
10	1	11

Figure 4: Activity node

The AON node seen in fig. 4 shows the scheduling details for "Make list of materials for course" including its unique ID (1.3.3), duration (1 week) and timing windows within the project. This activity cannot start before week 7, and to avoid delaying the project it cannot start later than week 10. It has a total float of 3 weeks, meaning there is some scheduling flexibility before it affects subsequent tasks. Tasks on the critical path have zero slack ($SI = 0$) and must be completed on time to avoid delaying the project [9].

7 Cost Management

Cost management is the process of planning, estimating, allocating, and controlling the financial resources of a project to ensure it is completed within the approved budget. It involves forecasting costs, establishing a cost baseline, and monitoring actual spending against that baseline throughout the project lifecycle. Effective cost management helps prevent budget overruns, ensures efficient use of funds, and supports informed decision-making. It combines various tools and techniques, including top-down and bottom-up estimations, cost baselines, and financial reporting, to maintain financial control and accountability across all project phases [2].

7.1 Budget

The anticipated maximum cost for the event series is 25,000 DKK, which is consistent with previous High5Girls projects. This number is based on both top-down and bottom-up estimation methods (see Appendix A.11, Table 11, and Figure 12). Notably, there are some significant differences between the two approaches, especially in the Outreach and Event categories where top-down estimation can misrepresent actual costs. For example, Logistics showed a 12% discrepancy between the estimates, corresponding to 3,000 DKK. The project will be fully funded in advance, with 20% of the budget disbursed at the start and the remaining 80% released upon completion and approval.

The cost baseline, illustrated in fig. 5, divides project spending into three main phases: initiation, procurement, and execution. The red section indicates the start of the project and the preparation of the event series for approval. The blue section covers the purchase of materials and public relations activities, where spending was delayed due to cash on delivery (COD) arrangements. Finally, the green section represents the execution phase, when the event series is carried out.

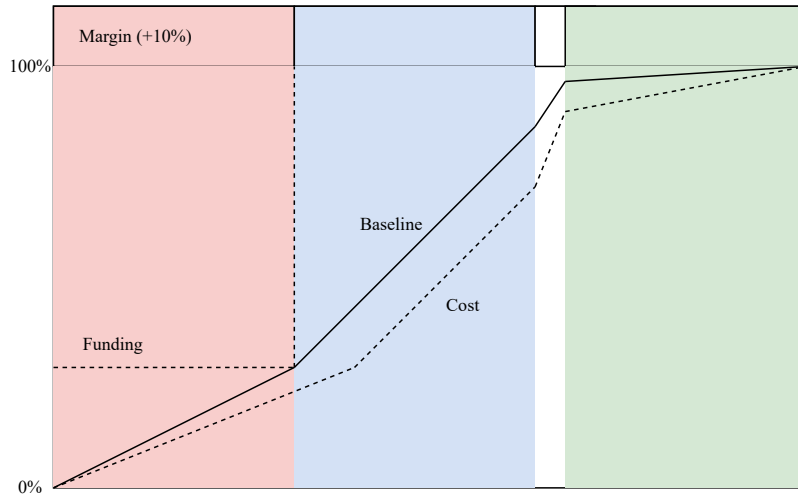


Figure 5: Cost Baseline

8 Risk Management

Risk management enables the identification of potential issues and the development of strategies to mitigate or respond to them effectively [10]. The first step in this process was the creation of a risk register, based on the Work Breakdown Structure (WBS) dictionary (table 10). This register, shown in Appendix A.12 as Table 12, includes the following columns: Category, Activity, ID, Description, and Owner. Categories refer to project areas such as Management or Development, while the Description outlines the specific risk. The Owner identifies the team member responsible for monitoring and responding to that risk.

Following this, an impact and likelihood matrix was created to assess the severity of each risk. Each risk is scored by multiplying its likelihood and impact, with scores ranging from 1 (minor risks, often accepted) to 25 (critical risks requiring immediate action). As seen in fig. 6 most project risks fall within medium to severe categories.

To ensure preparedness, a mitigation strategy matrix was developed (Table 13). This lists each risk by ID, its severity level, and the planned mitigation response, ensuring all team members understand how to handle potential issues.

	Impact				
Likelihood	Very low	Low	Medium	High	Very high
Very Low	[1]	[2]	[3]	[4]	[5] 1.1.1 1.1.2 1.1.6
Low	[2]	[4] 1.4.1 1.4.3 1.4.4	[6] 1.2.6 1.3.1 1.3.2 1.4.5	[8] 1.1.2 1.1.5 1.3.3 1.4.2	[10] 1.1.4 1.2.5
Medium	[3]	[6] 1.2.3 1.2.4	[9] 1.2.1 1.2.2	[12] 1.5.1 1.5.2	[15]
High	[4]	[8]	[12]	[16]	[20]
Very High	[5]	[10]	[15]	[20]	[25]

Figure 6: Impact and likelihood matrix (Low < 4, Medium < 8, Severe < 15, Critical)

9 Quality Management

Quality management is the process of ensuring that a project and its deliverables meet agreed-upon standards and stakeholder expectations throughout its lifecycle [2]. For this project, quality was addressed through a combined quality requirements and control plan, developed to provide a structured and practical overview. The plan outlines five key areas critical to success: role models, materials, event program, venue, and attendee feedback. Each requirement is paired with specific actions for ensuring compliance and consistency. These range from selecting qualified role models and verifying their background to testing venues and reviewing curriculum with pilot attendees. The full plan is documented in Appendix A.13 as Table 14.

A cost of quality analysis was also conducted. Conformance costs, including testing and quality checks, were calculated at 1,000 DKK. In contrast, the cost of non-conformance, potentially losing full project funding, was estimated at 25,000 DKK (Table 15). This stark contrast underlines the importance of preventive quality efforts.

A post-event feedback questionnaire will serve as a quality control, aiming for at least 80% positive attendee responses. This helps measure the final "product", a positive attendee experience, and offers a direct link between attendees and project performance (Table 16).

9.1 Fishbone Diagram

To proactively manage potential quality issues, a fishbone diagram was created which can be seen below in fig. 7. Also known as a cause-and-effect diagram, it visualizes possible root causes across areas such as personnel, process, materials, and environment. This tool equips the team to anticipate quality risks and supports problem-solving should the project fall short of quality expectations. It ensures that if any issues arise during execution, the team can quickly identify their source and take corrective action [2].

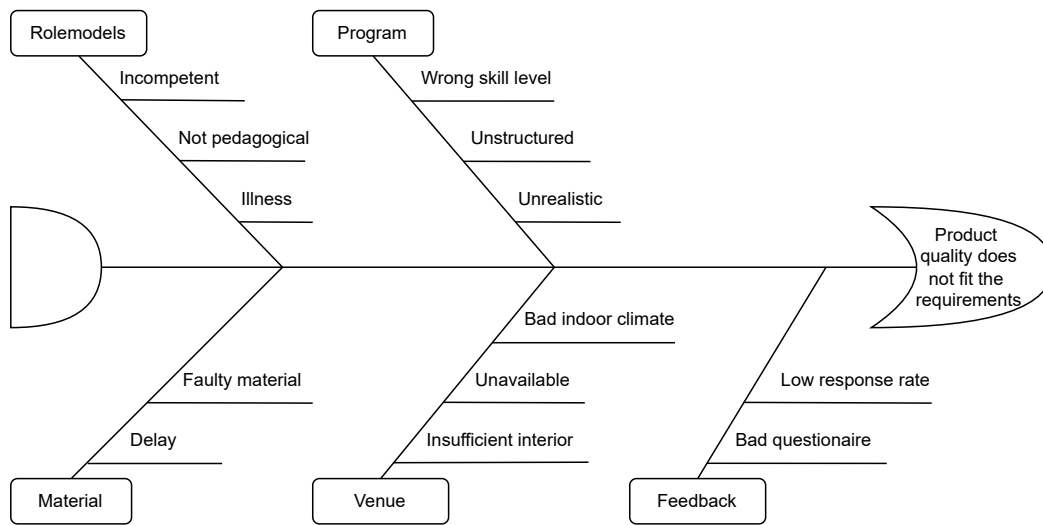


Figure 7: Fishbone-diagram

As depicted in the diagram, several key categories contribute to potential quality issues, including role models, materials, program, venue, and feedback. Each represents a distinct source of risk that can undermine project quality if not proactively managed. For instance, challenges with role models, such as incompetence, illness, or insufficient pedagogical skills, may negatively affect team performance and project outcomes. Similarly, material-related problems like faulty components or delivery delays can disrupt progress and lower the quality of deliverables. Within the program category, assigning personnel with the wrong skill levels, lacking structure, or following unrealistic plans can cause workflow disruptions and unmet objectives. Environmental factors related to the venue, such as a poor indoor climate or inadequate facilities, may also hinder effective execution. Feedback mechanisms play a vital role; inadequate or low-quality feedback, poor response rates, or flawed questionnaires make it difficult for teams to accurately assess and address issues as they arise. By visually mapping these root causes in a fishbone diagram, the team can systematically analyze underlying factors affecting quality. This approach enables proactive risk identification and timely corrective action, ultimately supporting continuous improvement and helping ensure the project meets its quality requirements.

10 Resource Management

Effective resource management is critical to project success, involving the planning, identification, and coordination of both physical and human resources. This ensures the right people and materials are available at the right time and in the right capacity [2].

10.1 Types of resources

Resources are divided into two main categories: physical and human. An overview is shown in the Resource Breakdown Structure (Appendix A.10, Figure 11). Physical resources include all tangible and digital assets needed for the project such as electronic components (e.g., Arduinos, wires, motors), office equipment (e.g., computers and printers), venues and workspace facilities, and software tools for coordination and communication. Human resources refer to the skills and expertise needed to execute the project. This includes role models (women in STEM guiding attendees), course developers, outreach coordinators for recruitment and communication, and administrative staff responsible for logistics, budgeting, and scheduling. Resource estimation was carried out through the Resource Breakdown Structure, which outlines needs across four categories: Personnel, Material, Equipment, and Facility.

10.2 Resource Planning, Estimation and Assignment

Effective resource management in this project involves both accurate estimation and clear task assignment. A Resource Breakdown Structure (RBS) was developed to identify and categorize all necessary resources into four main groups: Personnel, Materials, Equipment, and Facilities. This structure enables precise planning and supports efficient allocation throughout the project lifecycle. To ensure accountability and avoid confusion in task ownership, a Responsibility Assignment Matrix (RACI) was also created as can be seen in section 6.1.1. This tool defines who is Responsible, Accountable, Consulted, and Informed for each key activity, improving coordination and communication across teams [2]. Resources will be acquired through a combination of recruitment, such as volunteers and role models, and procurement, including electronic components, software, and venue space. Both the RBS and RACI matrix are available in Appendix A.10 as Figure 11 and Table 9, respectively.

11 Procurement Management

Procurement management involves the planning, selection, and acquisition of goods and services needed to complete the project. It ensures resources are obtained in a cost-effective and timely manner, often through external suppliers or vendors. A key component of this process is the make-or-buy analysis, which helps determine whether specific items should be produced in-house or purchased externally [2].

11.1 Make-or-Buy Analysis

For this project, a make-or-buy analysis [11] was performed for four key resource categories: electrical components, venues, snacks, and promotional material. In all cases, a buy decision was deemed most appropriate. Electrical components such as wires, Arduinos, and sensors are highly specialized and are best sourced from experienced suppliers to ensure quality and reliability for both teaching and prototyping purposes. Venues, specifically Studiostuen, are rented under fixed-price agreements to provide suitable event spaces. Snacks, including candy, crisps, and soda, are inexpensive and readily available, making local purchase the most practical option. Promotional materials like posters, T-shirts, and social media content are outsourced to print services to ensure professional standards and timely delivery. All procurement items are governed by fixed-price contracts and are scheduled in alignment with the WBS. Complete procurement details are provided in fig. 8.

Project Name: H5G Go-To Project					
Project Manager: Simone					
What			Why	When	Who
Description		Type of contract	Reason	WBS Timing	Source
Electrical components	Wires, Sensors, Arduinos	Fixed price	Prototypes, Teaching material	1.3.3 Make list of materials	Online supplier
Venues	Venue	Fixed price	Venues for the sessions	1.5.1 Hold Event	Studiostuen
Snacks	Candy/crisps, Fruit, Beverages	Fixed price	Satisfaction for attendees	1.5.1 Hold Event	Local supermarket
Promotional Material	Posters, T-shirts, Social media	Fixed price	Information and promotion	1.4.1 Create promotional material	Print-store service

Figure 8: Procurement plan

11.2 Risk Sharing/Transferring

This project uses procurement to strategically transfer risk. Purchasing complex electronics from specialized suppliers shifts the risk of technical failure and quality control to vendors better equipped to manage them. Fixed-price contracts further transfer financial risk, providing budget stability but potentially raising costs due to supplier risk buffers. Low-risk items, like snacks, are sourced locally to reduce complexity. However, relying on single sourcing, especially for critical components, introduces vulnerability. A multiple supplier strategy could mitigate this but adds coordination challenges. Overall, the approach balances risk transfer with practicality, ensuring project efficiency and protecting against key uncertainties [2].

12 Communication Management

Effective communication management is crucial to ensure alignment among stakeholders, enable timely decision-making, and promote overall transparency within the project. Understanding and analysing communication requirements helps to manage expectations, resolve conflicts early, and enhance team collaboration. By establishing clear and consistent communication strategies, the risks associated with misunderstanding or misalignment are significantly reduced [12].

12.1 Communication Requirement Analysis

A detailed overview of stakeholder communication needs is provided in Appendix A.14, as shown in Table 17. This table outlines who needs what information, when, and through which communication channels, forming the foundation for the communication strategy. To ensure communication remains effective throughout the project lifecycle, ongoing monitoring is essential. The purpose of this monitoring is threefold: first, to evaluate whether communication efforts are achieving their intended results; second, to ensure stakeholders are receiving accurate and timely information through appropriate channels; and third, to detect and resolve any communication issues that may arise. Various tools and techniques are employed for this purpose. These include expert judgment to develop tailored communication approaches, the use of a stakeholder engagement assessment matrix (see Table 6 in Appendix A.5), and meetings within the team to analyse communication effectiveness. Additionally, data analysis is used to assess the communication flow, for example, by examining whether departments such as Administration receive unnecessary volumes of communication despite relevant updates already being shared.

12.2 Implementation

The implementation of communication management in this project is structured through the use of a defined communication plan. This plan assigns responsibility for different communication tasks to designated individuals or groups. At the core of this structure is the project manager, who maintains an overview of all project activities and ensures that communication flows are consistent and effective.

To manage communication systematically, the team uses scheduling tools to create reminders and ensure stakeholders are informed according to plan. For instance, weekly reminders may be set up to prompt the sending of session updates to attendees. These measures help to maintain communication discipline and reduce the risk of information gaps or delays. Furthermore, while the project management information system (PMIS) [2] is referenced as a tool to support these efforts, further detail and integration of this system into the communication plan are still under development.

13 Project Reflection

This section evaluates the project management approaches applied throughout the event-based project. It examines the tools and role assignments employed, assesses their effectiveness, and identifies areas where a more tailored strategy could have enhanced efficiency and clarity.

13.1 Tool usage

Given the project's modest scope and one-off nature, some frameworks proved of limited practical value. For example, the Make-or-Buy Analysis, which is very powerful when deciding on complex, in-house deliverables, added little insight here, since all key components were readily available from external suppliers. In contrast, the Work Breakdown Structure was indispensable. Even at this scale, the WBS's visual map of tasks ensured comprehensive coverage of responsibilities and allowed for tracking progress at a glance, preventing any critical steps from being overlooked.

13.2 Role usage

Attempting to fill eight distinct project-management roles, as shown in our organizational structure, initially seemed ambitious for a small team with clear deliverables. In practice, however, having these defined roles, including Owner, CEO, course development, coding development, recruitment, SoMe, logistics, and project management, helped, set clear expectations and responsibilities. While there was some risk of introducing complexity and overlapping duties, establishing these specific roles streamlined communication, clarified who was accountable for each deliverable, and made it easier to identify when and where input was needed. Overall, this structure helped prevent delays and ensured accountability, while still keeping the workflow focused and efficient.

13.3 Future changes

Going forward, it's important to match methods to each project's size and goals, instead of using every available tool. Conducting a succinct "value-fit" assessment for each tool or framework prevents time spent on unnecessary analyses. Regular, low-key reviews of what's working and how tasks are progressing will help the team stay focused on what matters most. By choosing relevant methods over following the process for its own sake, future projects can be executed with greater agility and transparency. Since the start of this project, we have expanded the concept beyond Odense to include Aarhus and Copenhagen, and have also secured EU funding to support international growth. As a result, we now have upcoming events planned in Paris, Nuuk, and Amsterdam.

14 References

- [1] Equalis. *En årlig kortlægning af ligestilling og kønsdiversitet på det danske arbejdsmarked*. https://equalis.dk/wp-content/uploads/2024/02/Diversitetsbarometer_2024.pdf. 30.04.2025.
- [2] Project Management Institute. *A guide to the project management body of knowledge (PM-BOK guide)*. Project Management Institute, Inc, 2017.
- [3] Creately. *What is a Power Influence Grid: Comprehensive Guide with Templates*. <https://creately.com/guides/power-influence-grid/>. 30.04.2025.
- [4] Philip Beske-Janssen. *MODULE 2 - Stakeholder Management_2025.pdf (teaching material for PM1)*. Tech. rep. University of Southern Denmark, 26.02.2025.
- [5] Peter Landau. *What Is Project Scope? Scope Management Steps, Tips & Tools*. <https://www.projectmanager.com/blog/project-scope>. 30.04.2025.
- [6] Roger Duke. *What is a Work Breakdown Structure?* <https://www.workbreakdownstructure.com/>. 14.04.2025.
- [7] ProjectManager.com. *Work Breakdown Structure (Guide)*. <https://www.projectmanager.com/guides/work-breakdown-structure>. 14.04.2025.
- [8] ProjectManager.com. *A Gantt Chart Guide with Definitions & Examples*. <https://www.projectmanager.com/guides/gantt-chart>. 07.05.2025.
- [9] Philip Beske-Janssen. *MODULE 4 - WBS and project scheduling 2025.pdf (teaching material for PM1)*. Tech. rep. University of Southern Denmark, 12.03.2025.
- [10] Megan Bell. *Introduction to Risk Assessment in Project Management*. <https://projectmanagementacademy.net/resources/blog/risk-assessment-in-project-management/>. 16.04.2025.
- [11] PMTI Yad Senapathy. *Make or Buy Analysis: A Key Decision-Making Tool in Project Management*. <https://www.4pmti.com/learn/make-buy-analysis/>. 24.04.2025.
- [12] Philip Beske-Janssen. *MODULE 10 - Communications Management 2025.pdf (teaching material for PM1)*. Tech. rep. University of Southern Denmark, 7.05.2025.

Appendices

A Figures and tables

A.1 Brainstorm

	Roof Gardens at SDU	Go - To Science courses (High5Girls)
Pros	<p>Non-existent: Total creative control.</p> <p>Environmental Benefits: Improved air quality, stormwater management, energy efficiency.</p> <p>Social and Educational Benefits: Enhanced aesthetics, learning opportunities, community building.</p> <p>Economic Benefits: Reduced energy consumption, potential funding opportunities.</p>	<p>Already exists: Less work in establishing a framework.</p> <p>Addresses a need: Directly tackles the underrepresentation of women in STEM fields by providing early exposure and engagement with science.</p> <p>Community Building: Creates a supportive and encouraging environment where girls can connect with peers who share their interests.</p> <p>Scalability: The model can be replicated and expanded to include other fields, creating a series of different course offerings.</p>
Cons	<p>Initial Cost: Construction and installation are expensive, and requires numerous permits, which may negatively impact the timeline.</p> <p>Structural Considerations: Not all roofs can support the added weight, and strengthening the current structures could disrupt students' activities.</p>	<p>Recruitment Challenges: Reaching the target audience may require significant outreach and targeted marketing efforts.</p> <p>Logistics: Securing both funding and a suitable venue can be complex and resource-intensive.</p>

Table 1: Pros and Cons with the brainstormed ideas

A.2 Organizational overview

Name	Personality assessment
Mads and Tobias	<p>Both are ISTJ meaning they value structure, attention to detail and established processes. These traits make them well-suited for creating organized and thorough course materials.</p> <p>They will be working with Christian, providing support if he becomes bogged down in minor details or needs feedback on content.</p>
Christian	<p>As an INTJ Christian is highly capable and analytical, qualities ideal for coding and development work. His preference for working alone aligns well with these responsibilities.</p>
Anne Mia and Sebastian	<p>Anne Mia is an ESFJ, both empathic and responsible, while Sebastian, an ENTP, bring creativity and a solution-oriented approach to the team. Their strengths compliment each other. Anne Mia will focus on direct interaction and community building, including recruitment, by leveraging her strong interpersonal skills. Sebastian will apply his creativity to developing marketing content such as blog posts and social media.</p>
Rikke	<p>Rikke, like Christian, is an INTJ which makes her well-suited for strategic support and administrative tasks. Her preference for variety and changing tasks helps her avoid burnout and matches the diverse nature of administrative work.</p>
Simone	<p>Simone is an ENTJ, strategic and efficient, as well as able to keep the big picture in mind. However, she should be mindful of her impatience and tendency to take charge, to avoid demotivating the rest of the team. It's important for her to focus on effective delegation and to trust her teammates to execute their tasks.</p>

Table 2: Team Dynamics

A.3 Project description

Project Parameters	Project Description	Empowering girls through hands-on science.
	Project Goal	To develop and implement a recurring after-school science event series that engages and inspires girls aged 13-16 in STEM fields, with an initial focus on robotics. This project aims to create a fun, accessible, and supportive environment where girls can explore scientific concepts, develop practical skills, and foster a lasting interest in science.
	Project Overview	This project addresses the underrepresentation of women in STEM by providing a unique opportunity for girls to experience science firsthand. The core of the project is a series of engaging after-school events, similar to extracurricular activities like sports or music lessons, centred around specific scientific themes. The initial series will focus on robotics, developed in collaboration with experienced robotics engineers.
Key Activities	The primary focus areas for the successful development of the program series.	
	Curriculum Development	Partnering with robotics engineers to design and develop age-appropriate, hands-on activities that introduce fundamental robotics concepts, including programming, mechanics, and sensor technology. The curriculum will be designed to be engaging, interactive, and progressively challenging, fostering problem-solving skills and critical thinking.
	Event Planning and Logistics	Securing suitable venues, scheduling events, managing registrations, and coordinating logistics to ensure smooth execution of events. This will include creating a welcoming and inclusive environment for attendees.
	Outreach and Promotion	Developing a marketing and outreach strategy to promote the event series to target schools, community centers, and relevant organizations to reach the target audience of girls aged 13-16.
	Event Execution	Facilitating the robotics event series, providing guidance and support to attendees, and ensuring a positive and enriching learning experience.
	Evaluation and Assessment	Gathering feedback from attendees and stakeholders to evaluate the effectiveness of the program and identify areas for improvement. This will inform the development of future science event series.

Expected Outcomes	The following outcomes are to be expected, should the project be implemented as intended.
	Increased interest and engagement in STEM, specifically robotics, among girls aged 13-16.
	Development of practical robotics skills and knowledge. Fostering a sense of community and belonging among girl interested in science.
	Creation of a sustainable model for recurring science event series focusing on various STEM fields.
	Inspiring the next generation of female scientists and engineers.

Table 3: Project Description

A.4 Project scope statement

Project		Develop STEM course for girls
Project purpose		Addressing the underrepresentation of women in STEM by providing a unique and engaging opportunity for girls to experience science first-hand.
Project goals		<p>The project aims to design and deliver a course that increase interest in STEM among girls, while building a supportive community. Success will be measured by positive feedback from the majority of attendees at the final session.</p> <p>The project will be fully funded through sponsorship and volunteer efforts. The anticipated maximum cost per event-series is 25,000 DKK. Funds must be secured before committing to material purchase or scheduling events, and sponsors must be convinced to support the series.</p> <p>During the series event, attendees will create a product which involving an Arduino and electronic components such as resistors, LEDs and breadboards. The final product will be shaped by the girls' input. The cost of materials per attendee must not exceed 400 DKK.</p>
Project scope description	Development and Execution of a STEM Engagement Event Series for Adolescent Girls	
	Curriculum Development	<p>This project defines the scope for the development and execution of a five-part STEM engagement event series, designated as the "Go-to Science Project," targeting girls aged 13-16 and aligned with the core values of High5Girls (H5G). The project necessitates the development of a curriculum comprising five distinct sessions, each lasting two hours, designed to be accessible to attendees with minimal prior scientific knowledge. The project team will prepare detailed technical documentation, including specifications and design schematics, for review and approval, and integrate pedagogical expertise to ensure the curriculum's efficacy. Furthermore, potential enhancements to optimize learning outcomes will be evaluated.</p>

Project scope description	Admini- strative Management	Administrative management of the project will entail the development of comprehensive project management plans, including budgets and timelines, for CEO approval, alongside meticulous financial record-keeping that adheres to H5G financial policies. A final financial report will be provided, detailing all expenditures and demonstrating the fulfillment of all obligations. Financial procurement will involve the implementation of fundraising strategies conducted under the auspices of H5G, with all funds managed through the H5G financial department, and securing full project funding prior to material procurement.
	Material Procurement	Material procurement will require the sourcing and acquisition of all necessary materials within designated timelines, with comprehensive documentation of all procurement activities and strategic selection of materials for potential future reuse. The procurement team will contribute to the project's cost estimate. Quality assurance and testing procedures will include rigorous testing of individual components and assembled systems for functionality and safety, implementation of stress-testing protocols to ensure adherence to safety standards, and replacement of defective components.
	Event Logistics and Execution	Event logistics and execution will include all logistical support, including venue, catering, and attendee materials, along with the preparation and delivery of information to role models, and introductory training for role models. Finally, post-event material salvage will involve the systematic disassembly and storage of materials for potential future reuse.
Deliverables & Criteria	Primary deliverables	<ul style="list-style-type: none"> · Create a project the girls can complete within 5, 2 hour, sessions. · All materials purchased before start date. · A complete set of schematics and sample code for each session. · Project design approved by both owner and sponsor. · Final accounting of all expenditures.
	Acceptance criteria	<ul style="list-style-type: none"> · The project must be approved by owner and sponsor. · All schematics must be understandable for the attendees. · The project must fully meet the owner's standards. · Final accounting of purchases meets the company standard.

Design cours	The course will consist of 5, 2 hour, sessions, designed to spark interest in STEM. Each session will combine theory and practice, with a focus on visual feedback.
Execute course	The sessions will be split up into a intro, working and a conclusion part. The intro part will introduce this session focus and explain the theory. The working part will consist the girls working on their project, while the role models go around to help. The conclusion will end the session.
Competition	The primary competition will be from the universities. The focus on getting more women in STEM is becoming a bigger issue and more people are getting involved in trying to address the issue. SDU already offers an "IT Camp for piger", which provides similar experiences to those from H5G.
Fate of Attendee products	After all sessions are completed, the girls projects will be dismantled, into parts, for use in later projects. The girls can always purchase the materials of a project, if they want to bring the project home.
Key milestones	<p>Week 01 - 02 Develop the event-series concept, and obtain approval from Marianne.</p> <p>Week 02 - 04 Meet with sponsor to gauge interest in course.</p> <p>Week 04 - 17 Have idea approved by sponsors.</p> <p>Week 17 - 18 Detailed development of course material.</p> <p>Week 18 - 23 Host the 5 after-school events.</p> <p>Week 24 Evaluate the feedback received from attendees.</p>
Constraints	<p>Role models must take part in the project on a voluntary basis.</p> <p>Role models are required to plan and execute the events.</p> <p>All materials must be available within a manageable time frame.</p> <p>Funds and sponsors values must align with the project's value.</p>
Assumption	<p>Attendees will be local to the project.</p> <p>Role models possess sufficient skills to complete the go-to project.</p> <p>Materials can be disassembled after the course is completed, and used for future courses.</p> <p>Role models will be proactive and take initiative.</p>
Project scope exclusions	<p>The further educational journey of attendees.</p> <p>Transport to and from events.</p> <p>The booking system will be handled by High5Girls.</p>

	Reference documents	High 5 Girls standards for go-to. List of previous sponsors. Annual Accounts 2024.
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Table 4: Project Scope Statement

A.5 Stakeholders

Name of Stakeholder	Project Role	Department	Type of stakeholder	Type of communication	Engagement level	Influence on project outcome
High 5 girls	Owner	Administration	Internal	Email	High	High
Marianne	CEO	Administration	Internal	Email	High	High
Philip	Professor	Odense	External	Email	Medium	High
Simone	Project manager	Odense	Internal	Meetings	High	High
Rikke	Logistics	Administration	Internal	Meetings	Medium	High
Mads	Course development	Development	Internal	Meetings	High	High
Tobias	Course development	Development	Internal	Meetings	High	High
Christian	Programming	Development	Internal	Meetings	High	High
Sebastian	SoMe	Outreach	Internal	Meetings	High	Medium
Anne Mia	Recruitment	Outreach	Internal	Meetings	Medium	Medium
Media	Information	Recruiting	External	Email	Medium	Medium
Sponsors	Funding	Administration	External	Email	Low	High
Attendees	Customer	Recruiting	External	Email	High	Low
Educational Institutions	Customer	Recruitment	External	Email	High	Medium
Suppliers	Supply	Logistics	External	Email	Low	Medium
Policy Makers	N/A	Administration	External	Email	Medium	Low
Parents	N/A	Recruiting	External	Email	High	High
Rolemodels	Course development	Development	External	Email	Medium	Medium

Table 5: Stakeholder Registry

Name of Stakeholder	Unaware	Resistant	Neutral	Supportive	Leading
High 5 girls					C D
Marianne					C D
Philip			C		D
Simone					C D
Rikke					C D
Mads					C D
Tobias					C D
Christian					C D
Sebastian					C D
Anne Mia					C D
Media	C			D	
Sponsors	C			D	
Attendees	C			D	
Educational Institutions			C	D	
Suppliers	C		D		
Policy Makers	C			D	
Role-models				C	D
Parents	C			D	

Table 6: Stakeholder engagement assessment (C = current, D = desired)

A.6 Project Charter

Project Description	Empowering girls through hands-on science by developing and implementing a recurring after-school event series.	
Project Purpose	Addressing the under-representation of women in STEM by providing a unique, and interesting opportunity for young girls to experience science first-hand.	
Scope/Boundaries	The project concerns the development and execution of a go-to science course. The team will be responsible for raising the necessary funds, maintaining the role model network, recruiting suitable attendees, procuring materials, and implementing a marketing strategy.	
Requirements	A course stretching over 5 meetings lasting 2 hours, where the girls end up with a final project.	
Deliverables/Objective	Deliverables/Objective	Success Criteria
	Make a product	The product should cost less than 400 DKK and be interesting to work on/with.
	Approved course	The key stakeholders must approve the courses.
	Raise sufficient funds for the project	Funds should meet or exceed estimated requirements
	Spark an interest in STEM	Positive feedback
Schedule	<p>Week 01 - 02 Develop idea for event-series, and have idea approved by Marianne.</p> <p>Week 02 - 04 Meet with sponsor to gauge interest in course.</p> <p>Week 04 - 17 Have idea approved by sponsors.</p> <p>Week 17 - 18 Detailed development of course material.</p> <p>Week 18 - 23 Host the 5 after-school events.</p> <p>Week 23 Evaluate the feedback received from attendees.</p>	
Budget	Expected around 25,000 DKK per event-series.	

Assumptions and constraints	<ul style="list-style-type: none"> • All costs will be covered by funds and partners. • Attendees will be local to the project. • Role models will be required to plan and execute the event. • All materials must be available within a manageable time frame.
Negative Risks	<ul style="list-style-type: none"> • Not being able to provide the expected quality. • Lack of interest in the course. • Lack of sufficient funding. • Course not getting approved. • Not enough role-models signing up. • Not offering the course does not result in change of the current status quo within STEM.
Positive Risks	Too many attendees. Too much interest in the course, struggling to have space in the booked venues. Two role models being present might not be enough if we have too many attendees. We might need to set a limit of the number of attendees.
References	The team can leverage prior go-to course material for the development.
Key Stakeholders	<p>Owner/Client: High5Girls</p> <p>Project Sponsor: Villum Fonden</p> <p>Project Manager: Simone</p> <p>Administration: Rikke</p> <p>Development: Mads, Tobias and Christian</p> <p>Outreach: Anne Mia and Sebastian</p>
Approvals	Authority Levels: The Project Manager has full authority to decide on the design of the courses, schedule and other items.
Project Approval Requirements	All budgets and purchases must be approved by the Owner and Project Sponsor.
Quality Approval Requirements	All develop material must be approved by developers and project manager. Role models must be approved by requirement and project manager. Venues must be approved by logistics, rolemodels and the project manager.

Table 7: Project Charter

A.7 Business Case

Executive Summary	Empowering girls through hands-on science. Develop and implement a recurring after-school event series.
Objectives	<ul style="list-style-type: none"> • Provide a safe and fun learning environment. • Support girls in choosing STEM.
Market Analysis	<p>Target Audience: Girls aged 13-16</p> <p>Market Need: Demand for more girls in STEM</p> <p>Competition: After-school activities, Fysikklubben at NAT.</p>
Business Model	<p>Products: Good experiences for girls within the STEM field</p> <p>Pricing: Free (Investment from sponsors)</p> <p>Location: Odense</p> <p>Operations: Volunteering</p>
Financial Projections	Initial Investment: 25,000 DKK.
Benefits	<p>Educational: More girls choosing STEM</p> <p>Social: Girls gaining confidence, supportive network</p> <p>Societal: Closing the gap between girls and boys in STEM</p>
Risks and Mitigation	<p>Low interest: SoMe then aggressive marketing.</p> <p>Supply chain disruption: Backup course variations.</p>
Conclusion	The go-to science courses in Odense, offers a social and educational after-school program for teenage girls, with a solid business model it ensures social and economical viability.

Table 8: Business Case

A.8 Work breakdown structure

Task	CEO	Project Team								Ext.
Name	ID	Marianne	Simone	Rikke	Mads	Tobias	Christian	Sebastian	Anne Mia	Role models
Project Plan	1.1.1		A	R	C	C	C	I	I	
Business case	1.1.2	A	R	C						
Budget	1.1.3		A	R	C	C	C			
Funding	1.1.4	A	R	I					I	
Stakeholder	1.1.5	I	A					R	R	
Project Scope	1.1.6	A	R	C						
Coordinate w. team	1.2.1		A	R	I	I	I	I	I	
Purchasing	1.2.2		A	R	C	C				
Coordinate w. RM	1.2.3		A	R				R	R	C
Admin	1.2.4		A	R						
Book venue	1.2.5		A	R				I	I	
Coordinate schedule	1.2.6		A	R	I	I	I	C	C	
Plan course	1.3.1		A	C	R	R	R	I	I	
Develop each event	1.3.2		A		R	R	R	I	I	C
List of Materials	1.3.3		A	I	R	R	R			
Create PR	1.4.1		A					R	R	
Recruit RM	1.4.2		A	I				I	R	
SoMe	1.4.3		A					R	I	
Recruit attendees	1.4.4		A	I				I	R	
PR	1.4.5		A					R	I	
Event	1.5.1		A	R						R
Evaluation	1.5.2		A		I	I	I			R

Table 9: Responsible matrix (R = responsible, A = accountable, C = Consulted, I = Informed)

Task	ID	Description
Project plan	1.1.1	Developing the strategy for the project.
Business case	1.1.2	Creating the business case and presenting it to the CEO
Budget	1.1.3	Creating a rough budget over expenses and presenting it for approval

Task	ID	Description
Funds and Sponsors	1.1.4	Searching, meeting, and adding sponsors/funds to the budget.
Stakeholder analysis	1.1.5	Creating the stakeholder analysis and presenting it to the team
Project scope	1.1.6	Creating the project scope and presenting it to the team and CEO
Coordinate with team	1.2.1	Coordination with the team regarding schedules, materials, planning, and issues concerning the project.
Purchase materials	1.2.2	Receiving material list, purchasing from supplier, and following up on delivery.
Coordinate with role models	1.2.3	Coordinate schedules, event time, and needs before event.
Administrative work before event	1.2.4	Get participation list, answer emails, coordinate schedules, run over time plan, and check materials.
Book venues	1.2.5	Meet with venue and ensure booking for the right number of attendees.
Coordinate schedule	1.2.6	All activities related to schedule coordination between stakeholders, Project Department, role models, and attendees.
Plan the overall course	1.3.1	Developing and describing the go-to course. Specifying the objective and the learnings related to the chosen theme. This includes cost estimation and scope alignment with the Project Manager.
Development of each session	1.3.2	Detailed description of each session within the go-to course, ensuring the activities fit the objectives and learnings in the overall course description. Developing the code to be used in each session along with defining the specific skills needed for both the role models and the attendees, which should be communicated to Outreach. At the end of this process, Development should present their work to all relevant project members.
Make list of materials for course	1.3.3	Detailed list of materials and other relevant resources needed for the course, specified for each of the sessions. Administration should be informed when completed.

Task	ID	Description
Create promotional material	1.4.1	Content creation to be used for promotional material with the purpose of attracting as many attendees within the target segment as possible. This includes a description of the approach concerning social media, school visits, and other advertising/promoting strategies. The promotional content and advertising strategy should be consulted with the Project Manager, making sure the approach fits the vision of H5G.
Recruit role models	1.4.2	Recruitment of two or more volunteer role models. The chosen role models must have the skills defined by Development and values that align with the vision of H5G. After recruitment, Administration should be responsible for ongoing communication.
Execute social media campaign	1.4.3	All activities associated with the defined social media campaign, including ongoing work on chosen platforms. Status meetings within Outreach should be held regularly to follow the progress of the campaign and adjust the strategy if necessary. The Project Manager should be continuously informed on the development of the campaign.
Recruit attendees	1.4.4	Recruitment of attendees within the target segment, with the purpose of attracting as many as possible. This involves executing the promotional material (e.g., school visits) besides the social media campaign. After recruitment, Administration will handle ongoing communication regarding practical course information.
Create content from sessions	1.4.5	Content creation (e.g., pictures, videos, statements from attendees) based on carried-out sessions to be used for additional promotional material. This could also include social media posts based on school visits and other interactions with the target segment.
Hold event	1.5.1	All activities associated with carrying out the planned sessions and course.

Task	ID	Description
Evaluate event / project	1.5.2	Evaluation of the overall course and concept. This includes oral evaluation from both role models and attendees as well as internal evaluation from all project team members. Feedback during the course should also be assessed. All evaluation points should be collected and presented to the CEO.

Table 10: WBS dictionary

A.9 Project schedule

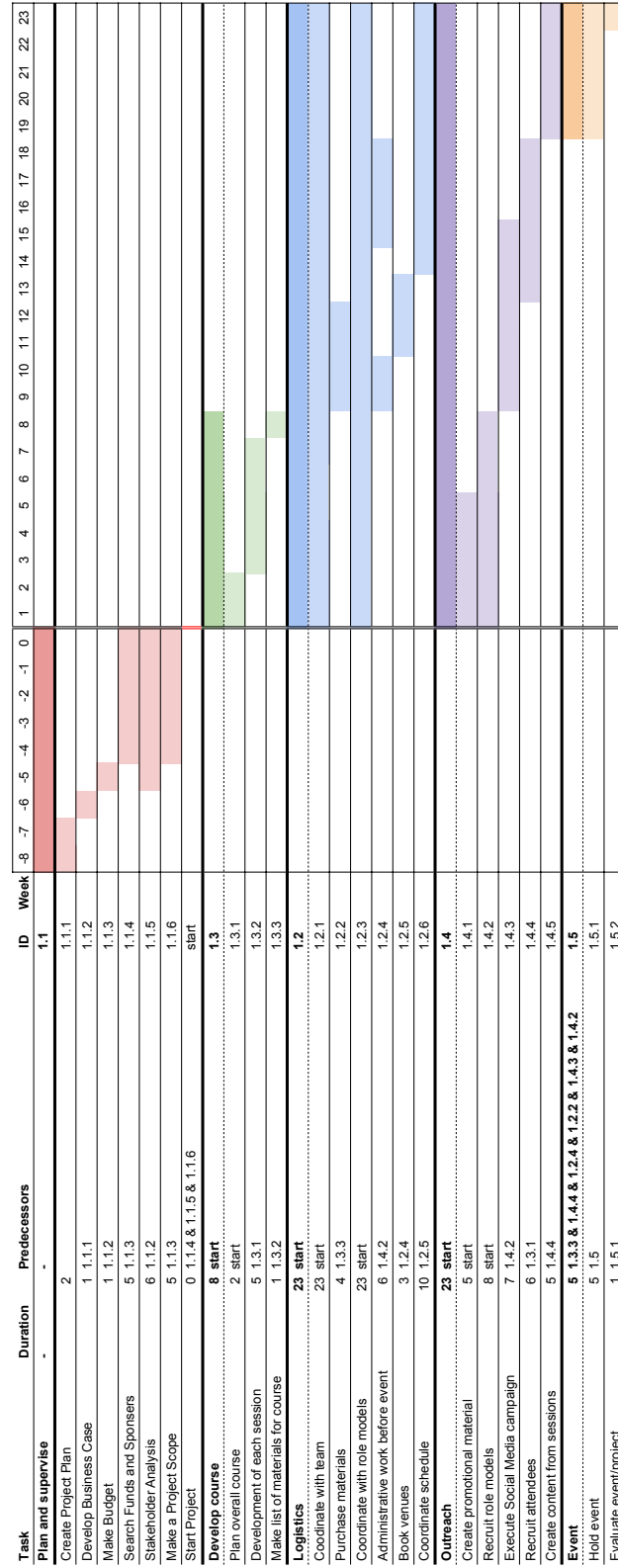


Figure 9: Gantt diagram

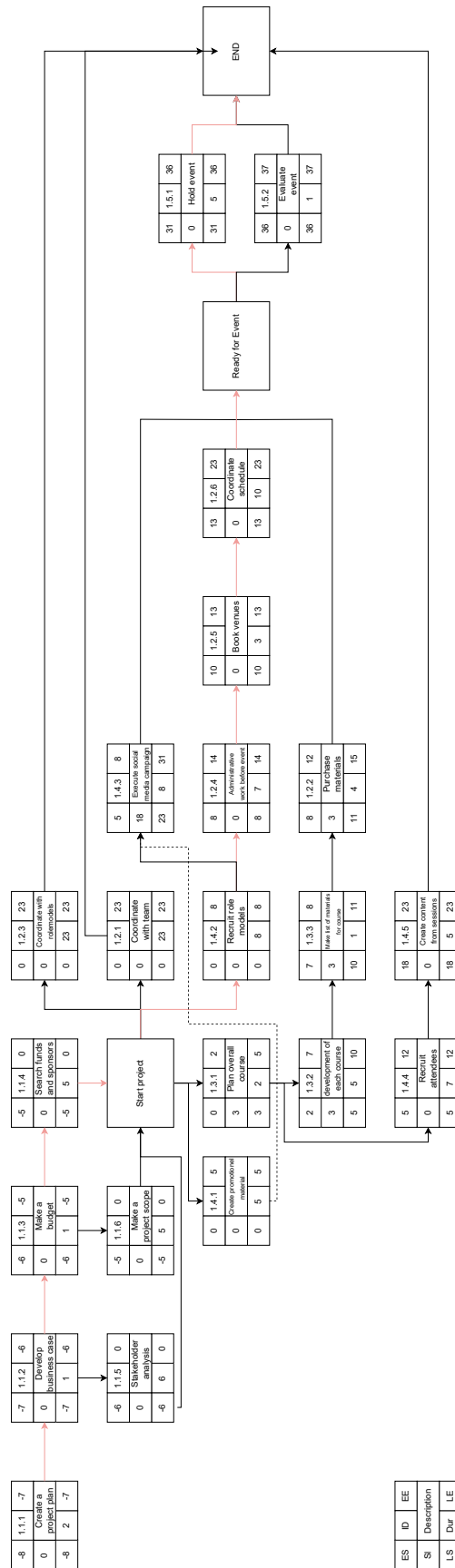


Figure 10: Activity-on-Arrow Network

A.10 Resource management

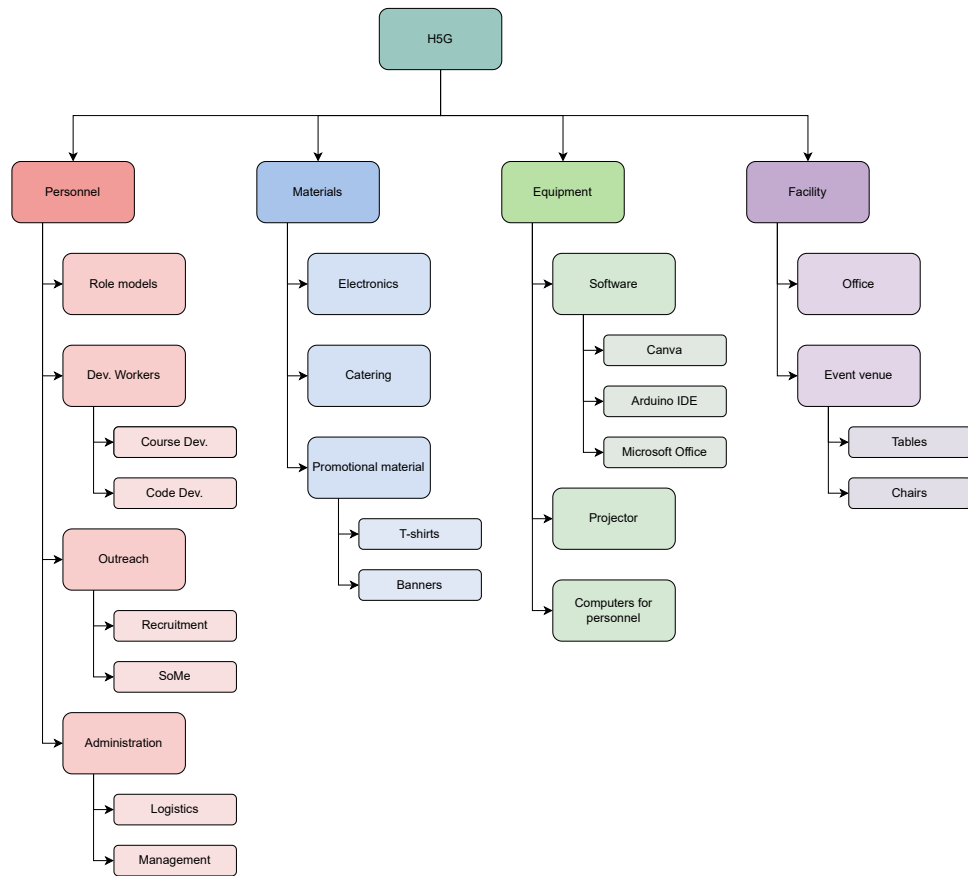


Figure 11: Resource Breakdown Structure

A.11 Cost management

Category	Percentage of Total	Budget Allocated Cost (DDK)
Management	5%	1.250 kr.
Logistics	40%	10.000 kr.
Development	10%	2.500 kr.
Outreach	25%	6.250 kr.
Event	20%	5.000 kr.
Total budget:	100%	25.000 kr.

Table 11: Top-Down cost estimation

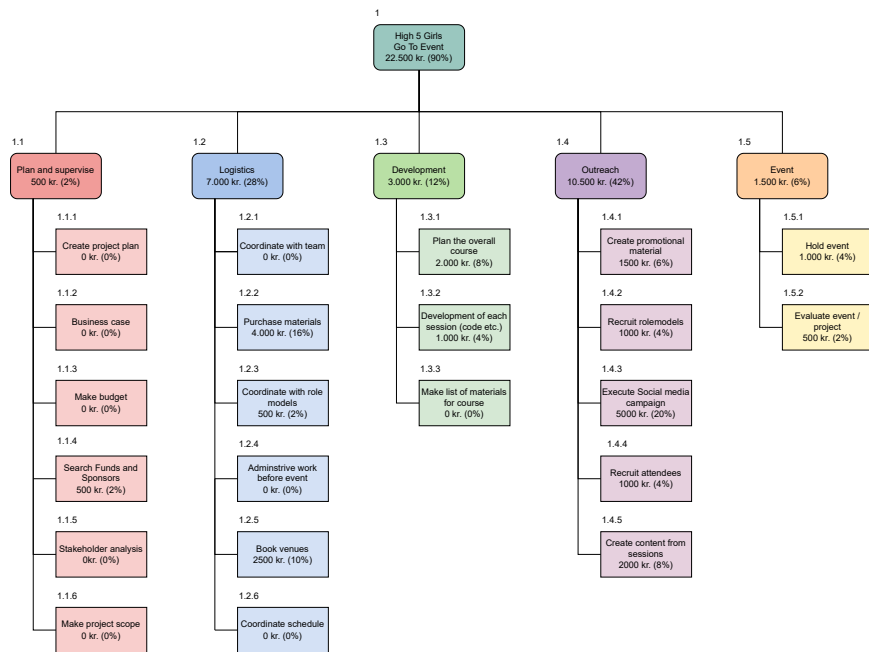


Figure 12: Bottom-up cost estimation,leaves 10% buffer

A.12 Risk

Category		Activity	ID	Description	Owner
0. All sources of project risk	1. Management Risk	Project plan	1.1.1	Not creating a realistic plan	Simone
		Business case	1.1.2	Not creating a viable business case	Simone
		Budget	1.1.3	Budget exceeds fundings from sponsors	Rikke
		Funds and Sponsors	1.1.4	Not being able to get sufficient funding	Rikke and Simone
		Stakeholder analysis	1.1.5	Stakeholders are not properly defined or managed	Simone
		Project scope	1.1.6	Scope is inaccurate and/or does not fit budget	Simone
	2. Logistics Risk	Coordinate with team	1.2.1	Misinformation	Rikke
		Purchase materials	1.2.2	Supply chain disruptions and shipping delays	Rikke
		Coordinate with role models	1.2.3	Unable to reach role models	Rikke/Anne Mia
		Administrative work before event	1.2.4	Work exceeds time schedule	Rikke
		Book venues	1.2.5	No available venues within the project budget	Rikke
		Coordinate schedule	1.2.6	Poor time management	Rikke
	3. Development Risk	Plan the overall course	1.3.1	Lack of competencies and time management	Tobias, Mads / Christian
		Development of each session	1.3.2	Unrealistic/bad overall plan	Tobias, Mads / Christian
		Make list of materials for course	1.3.3	Inaccurate estimation of materials needed based on estimated attendees	Tobias, Mads, Christian / Anne Mia

Category		Activity	ID	Description	Owner
0. All sources of project risk	4. Outreach Risk	Create promotional material	1.4.1	Lack of creativity/competencies. Unrealistic estimation of material cost.	Sebastian / Anne Mia
		Recruit role models	1.4.2	No available role models or lack of response from	Anne Mia
		Execute social media campaign	1.4.3	No views or lack of interest	Sebastian
		Recruit attendees	1.4.4	No interest in the program	Anne Mia
		Create content from sessions	1.4.5	No interest from attendees in being on social media	Sebastian
	5. Event Risk	Hold event	1.5.1	The role models are ill or unavailable	Simone
		Evaluate event / project	1.5.2	Quality of response from attendees and role models is lacking or insufficient, lack of quality of questionnaire	Simone

Table 12: Risk register and categories

Task id	Severity	Mitigation Strategy
1.1.1	Medium	Allocate sufficient time and involve experienced team members and necessary stakeholders in the planning process, use lessons learned from previous projects. Break down the project into smaller, manageable tasks with clear dependencies and realistic estimates. Regularly update the project plan.
1.1.2	Medium	Conduct thorough market research before developing a business case. Clearly define the objectives and regularly revisit and validate the business case.
1.1.3	Severe	Develop a detailed budget based on realistic estimates and scope. Clearly communicate budget constraints early in the project, and implement strict budget control measures. Seek sponsor approval for any significant budget changes.

Task id	Severity	Mitigation Strategy
1.1.4	Severe	Develop a compelling business case that demonstrates the value of the project, and identify and engage with potential sponsors early on. Provide progress updates and maintain regular communication with sponsors.
1.1.5	Severe	Identify stakeholders and their interests and influence through thorough analysis. Develop a management plan that outlines communication strategies for addressing stakeholder needs and expectations.
1.1.6	Medium	Clearly define scope with specific deliverables, boundaries, and acceptance criteria. Involve stakeholders in defining and validating scope, regularly review scope against budget and adjust when necessary (i.e. seek additional funding).
1.2.1	Severe	Establish clear communication channels within the team, implement regular team meetings and updates. Centralize important information and encourage feedback.
1.2.2	Severe	Identify and assess supply chain risks early on, and diversify suppliers. Establish plans for potential disruptions, and order critical materials well in advance.
1.2.3	Medium	Keep communication with role models open, and have back-ups identified in case primary choices are unavailable. Offer flexibility in scheduling and engagement.
1.2.4	Medium	Develop a detailed timeline for all admin tasks and allocate sufficient resources to handle the workload. Prioritize tasks and identify critical path activities. Track progress closely and proactively address delays.
1.2.5	Severe	Research a range of venues with varying cost and capacities, and be flexible concerning dates if possible. Negotiate best possible rates with venues.
1.2.6	Medium	Develop a project schedule with clear milestones, assign responsibilities and track progress. Review and adjust as needed, but encourage adherence to the schedule.
1.3.1	Medium	Assess the skills and experience of team responsible for planning the course. Provide training and support to enhance competencies, and break down planning process into smaller, more manageable tasks. Utilize templates and best practices from previous courses.

Task id	Severity	Mitigation Strategy
1.3.2	Medium	Ensure the overall course plan is realistic and well defined before developing the individual sessions. Review the plan to ensure it aligns with project goals.
1.3.3	Severe	Base material cost estimations on previous courses. Build in a buffer for material quantities to account for unexpected increases in attendance or material usage.
1.4.1	Medium	Engage individuals with proven creative skills in developing material, ensure there is room for it in the budget.
1.4.2	Severe	Start role model recruitment process early, and identify a wider pool of potential RMs. Use multiple channels for outreach and follow up and clearly articulate the benefit of participation. Offer flexibility in their involvement and provide necessary support.
1.4.3	Medium	Conduct research on target audience and their online behaviour. Develop engaging content tailored to their interests and use appropriate keywords and hashtags to increase visibility. Track campaign performance and make adjustments as needed.
1.4.4	Medium	Conduct market research to understand the interests of the target audience, then tailor the program content to address those needs. Communicate the value proposition and benefits of attending.
1.4.5	Medium	Clearly communicate the intention to create content during the sessions and obtain consent beforehand. Offer the option to attend regardless of preference, and focus on general themes instead of individual attendees if privacy is a concern.
1.5.1	Severe	Have backup RMs confirmed and prepared to step in if needed, develop contingency plan for adjusting event schedule or content if a role model becomes unavailable last min.
1.5.2	Severe	Design clear, concise and relevant questionnaires, and pilot test it to identify any ambiguities and areas for improvement. Clearly communicate the purpose and importance of the evaluation to both attendees and role models. Consider offering incentives for completing feedback.

Table 13: Mitigation Strategy matrix

A.13 Quality

Name	Quality requirements	Manage/control quality
Rolemodels	The rolemodels need to have a relevant education and have a pedagogical nature/approach. Role models must have a clean "børneattest".	Rolemodels will be selected through a process of interviews to make sure the criteria is met. Information on the role models "børneattest" will be found just after the interviews, and recruitment will look for previous relevant work with girls in the target group.
Materials	Materials need CE and IEEE standard (under here i.e. Arduiono), if possible. the materials also needs to works.	Materials will only be purchased from suppliers that ensures material standards are met.
Program	Relevant to STEM, age and level appropriate. Should spark interest in attendees.	Test the event program by running it by "test attendees" before executing the event.
Feedback	Have good questions to get good feedback from event (expected 80% possitive experience).	Have questionnaire approved by stakeholders and project manager.
Venue	Space and seating enough for all. Good audio/sufficient audio system.	Visiting the venue prior to event and test the reverberation of the room and/or the audio system and projector.

Table 14: Quality Management plan

Conformance costs	Current Cost of Quality	Future Cost of Quality	
Testing materials	500 kr.		
Testing program	0 kr.		
Rolemodels		0 kr.	
Travel		400 kr.	
Feedback		100 kr.	
Total Cost			1.000 kr.
Non-conformance Cost			
Refunding		25.000 kr.	
Total Cost			25.000 kr.
Total difference			24.000 kr.

Table 15: Cost of quality

Questions	Scale				
	1	2	3	4	5
How would you rate your overall experience of the course?					
How would you rate the difficulty of the course?					
How did the role models perform?					
How was your experience with developing a product?					
How was your experience with meeting the other girls?					
How likely are you to participate in future events?					
How likely are you to recommend this course to a friend?					

Table 16: Quality checklist

A.14 Communication management

What	Why	Who	Method	Responsible	Frequency
Project status	It is important that the higher ups knows a high level overview of the project	H5G/CEO and Simone	Email, Meetings (Push)	Simone	Monthly, at the start of every month
Project status	So he can help the project team with the project management	Philip and the project team	In-person (Push)	Project team	Weekly, every Wednesday
Project status & task-ending updates	Ensuring the project progresses successfully & closing a stage and proceed to the next	Project team	In-person, Messenger (Interactive)	Project team	Weekly, every Wednesday
Advertising	To promote the project	Media and outreach	Instagram, TikTok (Push)	Outreach	Daily
Impact report, branding opportunities	To keep sponsors informed	Sponsors and Simone/CEO	Email, Web updates (Push/Pull)	Simone/CEO	Quarterly, at the end of every quarter
Session updates, role model info	To keep them engage and informed	Attendees and outreach	SMS, Messenger (Push)	outreach	Weekly, in the beginning of every week during the event series

What	Why	Who	Method	Responsible	Frequency
Program overview, value proposition	To help the project (promoting and acquiring rooms)	Educational Institutions and Simone/ outreach	Email, in-person (Push)	Outreach	One time before event-series
Orders	Making sure the material will be available when needed	Suppliers and Logistics	Email (Push)	Logistics	As needed
Impact report, value proposition	To promote girls in STEM	Policy Makers and Simone/ CEO	Email, meeting (Push)	Simone/ CEO	As needed
Session briefs, expectations	To ensure role models are properly skilled and prepared to carry out the events	Role models and project team	Email, in-person (Interactive)	Development and Simone	Weekly, in the beginning of every week during the event series
Schedule, safety info, program benefits	To keep parents informed	Parents and project team	Email (Push)	Project team	Weekly, in the beginning of every week during the event series

Table 17: Stakeholder & Communication needs