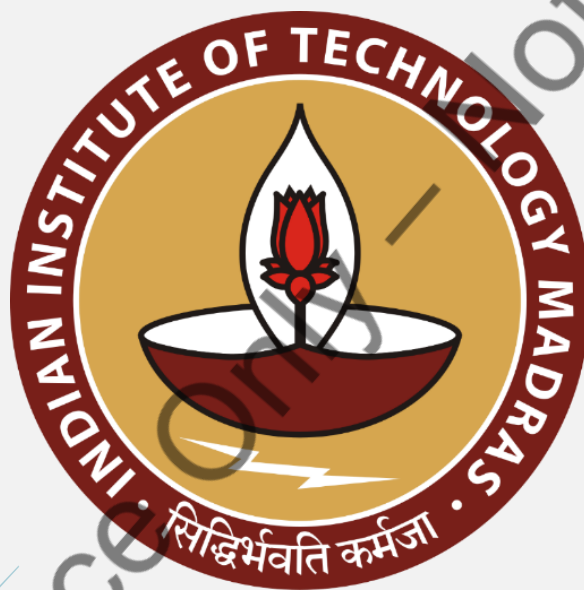


PROJECT REPORT MILESTONE 1

BSGN3001: STRATEGIES FOR PROFESSIONAL GROWTH
(SPG)

MAY-AUGUST 2025



Engineering Sense : Industry Trends & Digital Transformation

Team Number: 08

Agrima Bhatnagar: 22f2000781

Akash Kumar: 22f2000946

Akshit Mittal: 23f2004636

Alisha Amit Hatakar: 23f1002196

Parveen: 21f3001560

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PROJECT PROPOSAL & SCOPE

OVERVIEW OF THE TOPIC

The topic “*Engineering Sense: Industry Trends & Digital Transformation*” explores how modern engineering practices are evolving in response to rapid technological changes and global industry demands. With digital transformation at its core, this subject investigates how engineering fields are adopting innovations such as Artificial Intelligence (AI), Internet of Things (IoT), Industry 4.0, automation, and cloud computing to improve efficiency, sustainability, and productivity. It also highlights current industry trends shaping engineering domains—like smart manufacturing, green technologies, and data-driven decision-making—while emphasizing the need for engineers to adapt both technical and managerial skill sets in this digital era.

EXPECTED OUTCOMES

By the end of this project, the following outcomes are expected:

1. A comprehensive understanding of current and emerging industry trends in engineering.
2. Identification of key digital tools and technologies influencing various engineering sectors.
3. Real-world case studies showcasing successful digital transformation in industries such as manufacturing, construction, energy, and IT.
4. Recommendations for engineers, students, and organizations to stay relevant and competitive in the digitally transforming world.

SCOPE OF THE PROJECT

The scope of this project includes:

1. Analysis of major industry trends affecting different branches of engineering (e.g., mechanical, electrical, civil, software).
2. Study of digital transformation strategies and their impact on design, development, production, and maintenance processes.
3. Examination of the changing role of engineers, focusing on new skills required in a digital-first workplace.
4. Limitations to digital adoption, including cost, infrastructure gaps, and workforce readiness.

TIMELINE OF THE PROJECT

Serial No.	Action Item	Person Associated	Deadline
1.	Project Proposal and Topic Selection	Everyone	15/05/2025
2.	Team Contract	Everyone	18/05/2025
3.	Primary Resources	Parveen, Akash, Agrima	25/05/2025
4.	Secondary Resources	Akshit Mittal	28/05/2025
5.	Team Personality Report	Everyone	02/06/2025
6.	Objective and Scope of the Project	Agrima, Alisha, Parveen	04/06/2025
7.	Interview Questions	Alisha Hatalkar	08/06/2025
8.	Project Management	Agrima, Parveen	12/06/2025
9.	Final Report GP1 Deliverables	Everyone	18/06/2025

WORK BREAKDOWN STRUCTURE

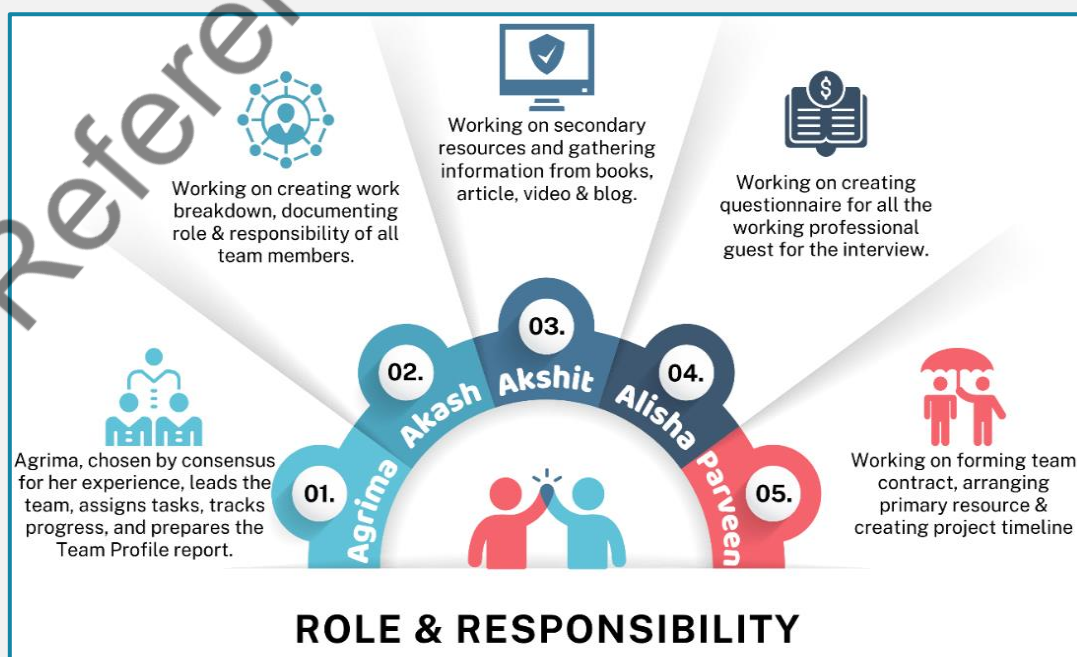


The SPG project is structured into **seven weeks**, each focusing on critical milestones to ensure a comprehensive and well-organized approach.

1. **Team Formation & Contract Creation** – The first step involves selecting team members, defining roles, and establishing collaboration guidelines through a formal contract. This ensures clarity in responsibilities and sets expectations for efficient teamwork.
2. **Topic Selection** – The team brainstorms and finalizes a **relevant and research-worthy topic**, ensuring alignment with project objectives and feasibility for exploration.
3. **Finding Professionals for Interviews** – To gather **real-world insights**, the team identifies experts and professionals related to the topic, initiating communication and planning interviews.
4. **Submitting GP1 & GP2 Reports** – These reports document initial research, findings, and interview insights, providing a **structured foundation** for further analysis.
5. **Conducting Content Analysis** – The collected data undergoes **rigorous examination** to identify trends, themes, and conclusions that contribute to the research outcome.
6. **Creating a Video Presentation** – A **visual narrative** is developed, compiling key findings, expert insights, and conclusions into an engaging presentation.
7. **Final Submission of Deliverables** – All components, including reports, analysis, and presentations, are **refined and submitted** for evaluation.

ROLES AND RESPONSIBILITIES

The team consists of five members, each contributing to different aspects of the project:



1. **Agrima Bhatnagar (Team Leader)** – Chosen for her experience, Agrima oversees the team's operations. She is responsible for **assigning tasks, monitoring progress, and ensuring accountability**. She is also working on Team Profile Report.
2. **Akash (Documentation & Organization)** – Akash plays a critical role in maintaining **structured records** of the project. He documents the **work breakdown**, ensuring clarity in responsibilities and tracking team contributions. His work aids in effective communication and reference throughout the project.
3. **Akshit Mittal (Research & Resource Gathering)** – As the researcher, Akshit focuses on **collecting secondary sources and relevant information**. He provides data and insights that strengthen the team's understanding of the subject, supporting informed decision-making.
4. **Alisha Hatakar (Interview Planning & Questionnaire Design)** – Alisha is responsible for **designing insightful interview questions** that align with the project goals. She ensures the team gathers meaningful perspectives from professionals, enriching the research with real-world applications.
5. **Parveen (Project Management & Coordination)** – Parveen manages the **team contract and project timeline**, ensuring adherence to deadlines. He organizes workflows and ensures the team remains aligned with the structured timeline.

Together, this division of roles fosters efficiency, ensuring each aspect of the project is **well-managed and executed effectively**.

RESOURCES

PRIMARY RESOURCES

Serial No	Name	Profile	Experience in years	Interviewed by
1.	Madhusudan Kumar Sinha	Senior Engineer: Qualcomm	2	Alisha
2.	Vinil Vasukuttan	Lead Engineer: Deutsche Telekom Clinical Solutions	20	Akash
3.	Digvijay Chudasama	Software Development Engineer: Zylitix Technologies	2	Akshit
4.	Abhishek Srivastava	Associate Engineer: Reliance Jio	2	Agrima
5.	Manish K	SEO Executive: Jio	2	Parveen

Interview Questions: <https://docs.google.com/document/d/12ylA-olDIUloDATJG-JVgCXwNpUZV0YyOgjNERkcUE/edit?tab=t.0>

SECONDARY RESOURCES

TED TALKS AND VIDEOS

1. Ferguson, B. (2024, November 12). What's in an engineer's head?: [Link](#)
2. freeCodeCamp.org. (2023, November 14). Become a great engineering manager: [Link](#)
3. Howards, J. (n.d.). The wonderful and terrifying implications of computers that can learn: [Link](#)
4. Scalabre, O. (n.d.). The next engineering revolution is here: [Link](#)
5. Musk, E. (2017, April). The future we're building - and boring: [Link](#)

ENGINEERING MANAGEMENT ARTICLES:

1. **Harvard Business School Online.** (2023, January 10). *Leadership in engineering: What it is & why it's important.* [Link](#)
2. Stanier, J. (n.d.). *The engineering manager.* [Link](#)
3. Engineering Management Blogs:
4. **The Pragmatic Engineer.** (n.d.). *The pragmatic engineer blog.* [Link](#)
5. **Engineering Enablement.** (n.d.). *Engineering enablement blog.* [Link](#)
6. **Toptal.** (n.d.). *Toptal blog - engineering management.* [Link](#)

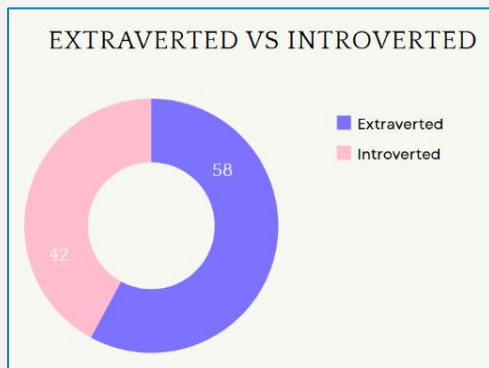
ENGINEERING FILMS:

1. **The Martian (2015)**
Focus: Interdisciplinary engineering problem-solving, survival strategies
Content: Astronaut using engineering knowledge across multiple disciplines to survive on Mars.
2. **The Imitation Game (2014)**
Focus: Engineering innovation and problem-solving during wartime
3. **Interstellar (2014)**
Focus: Aerospace engineering, robotics, agricultural engineering
Content: Spacecraft design, robot engineering, scientific accuracy in black hole visualization

TEAM PERSONALITY PROFILE REPORT

Team Personality Profile Report provides a comprehensive overview of the personality types within our team, highlighting individual traits, working styles, and group dynamics. By understanding each member's unique preferences, ranging from decision-making approaches to communication styles, we aim to enhance collaboration, strengthen relationships, and improve overall team performance.

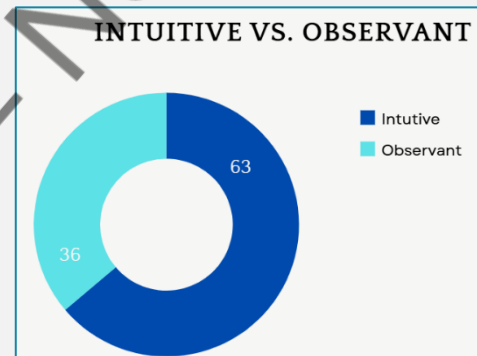
1. EXTRAVERTED VS INTROVERTED



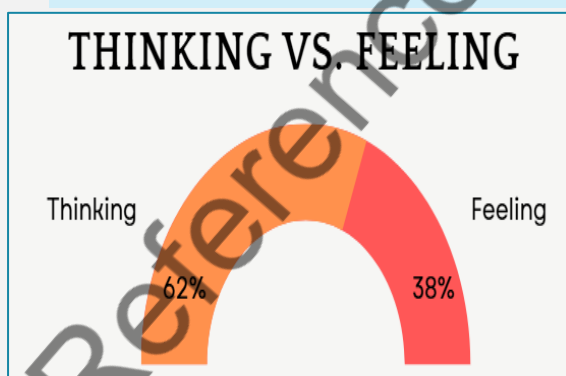
•Our team strikes a balance between extraversion and introversion. Akshit, Agrima, and Alisha, being more extraverted, bring energy and enthusiasm, while Akash and Parveen, as introverts, offer calm, thoughtful insight. This blend drives us forward with both momentum and depth. To make the most of our team's personality mix, we can balance group talks with quiet reflection time and use one-on-one check-ins for quieter voices.

2. INTUITIVE VS OBSERVANT

Our team shows a balanced mix of intuitive and observant traits. Agrima (75%), Akshit (70%), and Parveen (60%) lean strongly toward intuition, bringing creativity and future-focused thinking. Alisha and Akash, both at 59% observant, contribute practical insights and attention to detail. This mix helps us approach tasks with both vision and realism. By combining abstract ideas with concrete facts, we create a well-rounded and effective team dynamic.



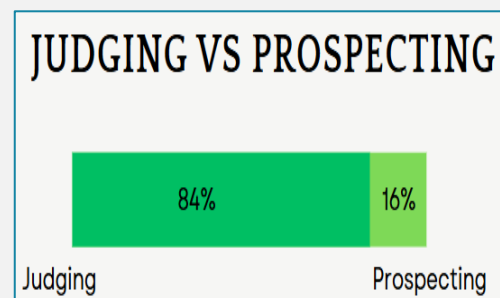
3. THINKING VS FEELING



Our team leans more toward Thinking personalities, with Akshit (59%), Akash (60%), and Parveen (68%), making up about 62.1% of the group. They bring logic, objectivity, and a results-driven mindset. Agrima (55%) and Alisha (59%), who make up the 37.9% Feeling side, contribute empathy and people-focused decisions. This balance allows us to approach problems with both fairness and compassion.

4. JUDGING VS PROSPECTING

Our team is predominantly Judging in style, with Akshit (71%), Agrima (74%), Alisha (63%), and Parveen (65%) making up about 84.3%. They prefer structure, planning, and clear timelines. Akash, with 51% Prospecting, adds a flexible, adaptable approach, contributing spontaneity and openness to change.



EXERCISE QUESTIONS

1. DO CERTAIN PERSONALITY TRAITS MAKE PEOPLE GOOD TEAM MEMBERS? IF SO, WHAT ARE THEY AND WHY ARE THEY IMPORTANT?

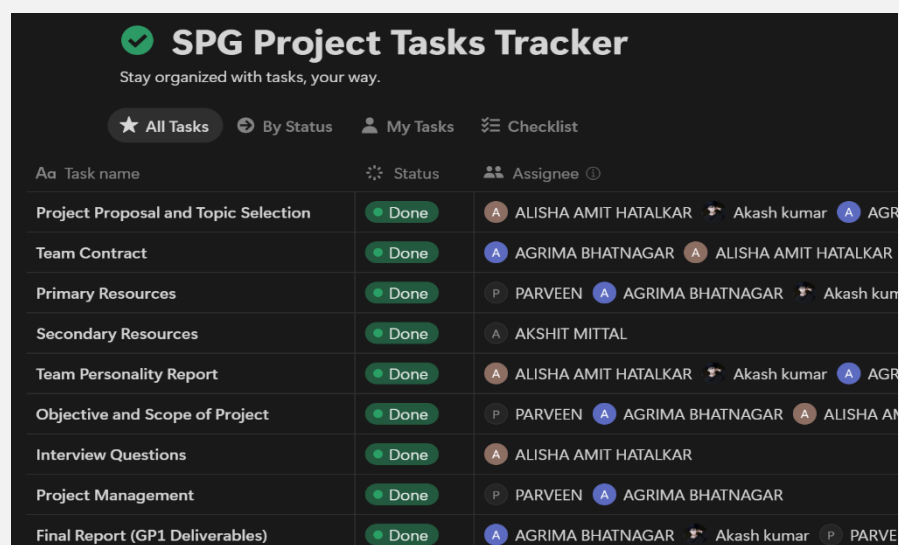
Yes, personality traits play a big role in shaping effective team members. In our team, Agrima as an ENFJ brings empathy, motivation, and strong leadership that help keep everyone aligned and inspired. Akshit as an ENTJ contributes strategy and decisiveness, driving the team forward with clear goals. Alisha as an ESFJ creates a warm and supportive space that encourages participation. Parveen as an INTJ offers depth, planning, and long-term thinking, while Akash as an ISTP brings hands-on problem-solving and calm under pressure. These traits help us complement one another and build a strong, balanced team dynamic.

2. IS IT MORE EFFECTIVE FOR TEAMS TO BE COMPOSED OF MEMBERS WHO HAVE DIFFERENT PERSONALITY TYPES OR SIMILAR PERSONALITY TYPES?

Teams with different personality types are often more successful. Our team shows how this works in action. Extraverts like Agrima, Alisha, and Akshit bring energy, leadership, and communication, while introverts like Parveen and Akash provide focus, analysis, and thoughtful input. Thinkers such as Akshit, Parveen, and Akash support logic-based decision-making, while feelers like Agrima and Alisha ensure emotional awareness and team harmony. This mix allows us to see every challenge from multiple sides and find well-rounded solutions. Instead of clashing, our differences make us more innovative and resilient as a team.

PROJECT MANAGEMENT TOOL:

Our team, Agrima Bhatnagar, Akshit Mittal, Alisha Amit Hatakar, and Akash Kumar—has efficiently divided project tasks and is managing everything on Notion using a shared SPG Project Tasks Tracker. This tool helps us track progress, assign responsibilities, and stay organized with due dates. Each task, from proposal drafting to final report submission, is clearly marked with statuses and assignees. This collaborative setup ensures transparency, accountability, and smooth coordination throughout the project.



Task name	Status	Assignee
Project Proposal and Topic Selection	Done	ALISHA AMIT HATAKAR, Akash kumar, AGR
Team Contract	Done	AGRIMA BHATNAGAR, ALISHA AMIT HATAKAR
Primary Resources	Done	PARVEEN, AGRIMA BHATNAGAR, Akash kum
Secondary Resources	Done	AKSHIT MITTAL
Team Personality Report	Done	ALISHA AMIT HATAKAR, Akash kumar, AGR
Objective and Scope of Project	Done	PARVEEN, AGRIMA BHATNAGAR, ALISHA AM
Interview Questions	Done	ALISHA AMIT HATAKAR
Project Management	Done	PARVEEN, AGRIMA BHATNAGAR
Final Report (GP1 Deliverables)	Done	AGRIMA BHATNAGAR, Akash kumar, PARVE