**SPxY Project : Role Card: Mechanical Engineer**

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| **Filename:** 112005\_ORG\_R01\_Role Card-Mechanical Engineer  **Project:** Project SPxY, EPFL Spacecraft team | **Prepared by:** Valentin Suppa-Gallezot  **Approved by:** TBA |

**Role Card: Mechanical Engineer**

**Role Overview:** The Mechanical Engineer for the SPxY project plays a pivotal role in designing and improving mechanical components using SolidWorks, creating detailed drawings with precise tolerances, and collaborating with the team to enhance existing 3D parts for optimized performance.

**Key Duties and Responsibilities:**

**1. Mechanical Design:**

* Design and develop mechanical components and structures for the APM using SolidWorks.
* Ensure the mechanical designs align with project requirements and performance goals.
* Collaborate with the team to integrate new and improved parts into the APM system.

**2. Improvement and Modification:**

* Identify opportunities for enhancing existing 3D parts, such as improving efficiency, reducing weight, or increasing durability.
* Develop and implement design modifications to enhance the performance of the APM.
* Conduct simulations and tests to validate the impact of design improvements.

**3. Detailed Drawings:**

* Create detailed engineering drawings for mechanical components, specifying tolerances, materials, and manufacturing processes.
* Ensure that drawings comply with industry and project standards.
* Collaborate with the testing and manufacturing teams to ensure accurate fabrication of parts.

**4. Collaborative Teamwork:**

* Work closely with the system engineer, simulation and testing engineer, and electrical engineer to ensure design and compatibility of mechanical parts.
* Provide expertise in materials selection and structural integrity.
* Address design-related issues and challenges through collaboration with the project team.

**5. Documentation and Records:**

* Maintain comprehensive records of design changes, modifications, and design histories.
* Document the rationale behind design improvements and their impact on APM performance.
* Contribute to the preparation of technical documentation for regulatory approvals.

**Limits of Authority:** The Mechanical Engineer is responsible for designing, improving, and modifying mechanical components and creating detailed drawings for the APM. However, significant changes to the project scope, budget, or critical design decisions may require approval from the project manager or higher-level management. This role should closely collaborate with the project team to ensure the mechanical components align with project objectives.

*Note: The duties and responsibilities listed in this role card are not exhaustive and may be subject to change as project requirements evolve.*