

PLASTIC LOOP GAMBIA

Advancing Plastic Waste Management Through Circular Economy Approaches

STAFF RECRUITMENT ADVERTISEMENT

(Recruitment in anticipation of donor approval)

CAD / Prototyping Support Specialist

Location: Project Sites

Employment Type: Full-Time Contract

Duration: 12 months, renewable depending on performance and project funding availability

Remuneration: Competitive, commensurate with qualifications and experience

Reports To: Local Project Lead / Project Manager / Project Engineer / Design Lead

ABOUT THE PROJECT

Hustle for Humanity Gambia (HFH-G) and Ayara Foundation Switzerland are pleased to announce the anticipated recruitment of qualified and motivated Gambian professionals for Plastic Loop Gambia, a project entitled “Advancing Plastic Waste Management Through Circular Economy Approaches”. The initiative turns plastic waste into useful products, creates jobs and raises local economic value through collection, recycling, manufacturing and community engagement in the Greater Banjul Area. It supports the government's ongoing commitment to environmental sustainability and public health, and will operate as the country's second organised plastic waste collection point, strengthen stakeholder awareness of sustainable waste management, and generate livelihood opportunities for vulnerable groups.

This initiative is currently pending final approval and funding from our donors. Recruitment will proceed only upon formal approval and disbursement of funds. Only shortlisted candidates will be contacted for interview.

JOB SUMMARY

We are seeking a skilled and innovative CAD / Prototyping Support Specialist to contribute to the design, development and testing of products and solutions within the Plastic Waste and Circular Economy Project. The successful candidate will produce detailed computer-aided designs (CAD), develop prototypes and support iterative improvements that promote sustainable reuse, recycling and circular use of plastic materials, supporting the development of product designs, prototypes, fixtures and technical solutions from concept through production.

KEY RESPONSIBILITIES

- Develop and produce detailed 2D and 3D CAD models for components, tools, machinery and products related to plastic waste recycling and circular economy applications.
- Collaborate with engineers, designers and project teams to translate concepts into functional prototypes.
- Support rapid prototyping activities using various methods such as 3D printing, CNC machining and other fabrication techniques.
- Assist in selecting appropriate materials and manufacturing processes aligned with sustainability goals and project specifications.
- Modify and refine prototype designs based on testing feedback, performance data and user input.
- Maintain accurate documentation of design iterations, prototype versions and testing results.
- Ensure all designs comply with relevant standards, safety requirements and manufacturability constraints.
- Coordinate with vendors and workshops for prototype fabrication and material procurement as needed.
- Help troubleshoot design or production issues during prototype development phases.
- Stay updated on the latest CAD software, prototyping technologies and sustainable material innovations relevant to plastic waste management.

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CAD Design and Drafting

- Create accurate 2D drawings and 3D models using CAD software.
- Develop parts, assemblies, layouts, fixtures, jigs, tooling and prototypes.
- Modify existing designs based on engineering, production or customer requirements.
- Prepare detailed manufacturing drawings with dimensions, tolerances, materials, finishes and revision information.
- Apply appropriate design standards, drafting practices and company procedures.
- Review designs for fit, form, function, manufacturability and ease of assembly.
- Support reverse engineering and measurement of existing components.

Prototyping Support

- Convert concepts, sketches and specifications into functional prototypes.
- Prepare files for 3D printing, CNC machining, laser cutting, routing, moulding or other fabrication methods.
- Select suitable materials and manufacturing processes for prototype development.
- Build, assemble and test prototypes and proof-of-concept models.
- Identify and resolve design or manufacturing issues during prototype development.
- Make design changes based on test results, user feedback and engineering reviews.
- Support rapid prototyping and iterative product development activities.

Design Verification and Testing

- Perform basic fit, clearance, assembly and interference checks.
- Support prototype testing against design specifications and performance requirements.
- Record test results, observations, defects and recommended improvements.
- Assist engineers and project teams with design validation activities.
- Verify that drawings and models accurately reflect approved design changes.
- Support the development of inspection criteria and prototype test plans.

Technical Documentation

- Prepare engineering drawings, assembly instructions, bills of materials and prototype documentation.
- Maintain accurate design files, drawing registers, revision histories and technical records.
- Ensure drawings include correct part numbers, materials, tolerances, notes and revision status.
- Create exploded views, assembly guides, installation instructions and visual work instructions.
- Maintain organised digital files in accordance with document-control procedures.
- Support the preparation of technical presentations and design review materials.

Design Changes and Configuration Control

- Process engineering change requests and update drawings and CAD models.
- Ensure only approved designs and revisions are released for use.
- Maintain version control of CAD files, drawings, prototypes and related documentation.
- Communicate design changes to engineering, manufacturing, quality, purchasing and other relevant teams.
- Identify discrepancies between drawings, CAD models, prototypes and manufactured parts.
- Support product lifecycle management and document-control systems.

Manufacturing and Production Support

- Work closely with manufacturing and production teams to resolve design-related issues.
- Provide technical clarification on drawings, dimensions, assembly methods and materials.
- Support tooling, fixture and work-holding design for production processes.
- Review designs for manufacturability, assembly, serviceability and cost-effectiveness.

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- Assist with first-article builds, sample production and production trials.
- Investigate prototype or production defects and recommend design improvements.

Equipment and Prototype Workshop Support

- Operate and maintain prototyping equipment such as 3D printers, CNC machines, laser cutters, hand tools and assembly equipment, where qualified.
- Prepare machines, materials and files for prototype production.
- Perform routine checks and basic maintenance on prototyping equipment.
- Ensure tools, equipment and work areas are kept clean, organised and safe.
- Follow operating procedures and manufacturer guidelines for all equipment.
- Report equipment faults, material shortages and safety concerns.

Quality, Safety and Compliance

- Follow all company quality, health, safety and environmental procedures.
- Conduct risk assessments for prototype builds and fabrication activities where required.
- Use appropriate personal protective equipment.
- Ensure prototype materials and components meet specified requirements.
- Support quality inspections and nonconformance investigations.
- Maintain accurate records of inspections, tests and corrective actions.
- Ensure designs comply with relevant industry standards and regulatory requirements.

Collaboration and Communication

- Work with engineers, designers, technicians, production staff, suppliers and customers.
- Participate in design reviews, brainstorming sessions and project meetings.
- Provide clear technical updates on design progress, prototype status, risks and issues.
- Coordinate prototype schedules, materials, external services and required approvals.
- Support training and knowledge-sharing related to CAD and prototyping processes.
- Build effective working relationships across technical and operational teams.

Continuous Improvement

- Identify opportunities to improve CAD standards, design workflows and prototyping processes.
- Develop standard templates, drawing formats, libraries and design guidelines.
- Recommend improvements to reduce prototype cost, lead time, material waste and rework.

This role plays an essential part in driving innovation and practical solutions for turning plastic waste into valuable resources, empowering the circular economy through effective design and prototyping support.

The duties outlined above represent the primary functions of the role but are not exhaustive. The position may require additional responsibilities and special projects as assigned by management.

QUALIFICATIONS

- Master's / Bachelor's degree or diploma in Mechanical Engineering, Industrial Design, Product Development or a related field.
- Proven experience in CAD software such as AutoCAD, SolidWorks, CATIA, Fusion 360 or similar platforms.
- Hands-on experience with prototyping equipment and processes, including 3D printers, laser cutters, CNC machines and manual fabrication tools.
- Familiarity with plastic materials, recycling processes and sustainability principles is highly desirable.
- Strong problem-solving abilities and attention to detail in translating concepts into practical prototypes.
- Effective communication skills to work collaboratively with multidisciplinary teams.

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- Ability to manage multiple tasks and prioritise workflow for timely project support.
- Knowledge of product lifecycle considerations within circular economy frameworks is a plus.

WORKING CONDITIONS

- Primarily based in a workshop/laboratory environment with access to prototyping tools.
- Occasional site visits to recycling facilities or manufacturing locations may be required.
- Standard working hours (8 am – 5 pm) with possible extended hours during peak project periods or audits, including weekends and public holidays.
- Compliance with health and safety regulations when operating equipment and handling materials.

HOW TO APPLY

Interested candidates are invited to visit the website <https://www.plasticcircles.com> to submit their updated CVs and cover letters detailing their suitability for the anticipated positions to plasticloopgambia@gmail.com on or before 15th November 2026.

Hustle for Humanity Gambia is carrying out this recruitment as the local implementation lead, in partnership with Ayara Foundation Switzerland as the international programme lead.

Hustle for Humanity Gambia and Ayara Foundation Switzerland are equal opportunity employers that value diversity. Women and candidates from underrepresented groups are strongly encouraged to apply.