



Africa Centre of Excellence Centre for Public Health and Toxicological Research University of Port Harcourt



FEASIBILITY STUDY FOR THE DEVELOPMENT OF A TESTING FACILITY IN THE UNIVERSITY OF PORT HARCOURT

*PUTOR...redefining the art of high impact public health/toxicological research
and education in Africa*

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WORKSHOP PLAN 14

Executive Summary

The University of Port Harcourt as a premier entrepreneurship university in Nigeria had recognized the need to develop a testing Centre to support innovation, entrepreneurship and commercialization among faculty and student. To this end, the University, supported by the Africa Centre of Excellence in Public Health and Toxicological Research and the Tertiary Education Trust Fund seeks to establish a prototyping, testing and fabrication centre which will serve this purpose for the south south zone of Nigeria. This proposal provides details the overview of the Testing facility initiative, the goals of fostering entrepreneurship, research innovation, and technological advancement, alignment with the University's mission and regional economic development goals and a summary of key findings and recommendations

Introduction

The University of Port Harcourt was established by an act of the Federal Republic of Nigeria in 1975 and like all public and private universities in Nigeria is accountable to the Federal Ministry of Education through the National Universities Commission (NUC) which regulates all universities in Nigeria. It is a member of the Association of Commonwealth University and is host to two African Centres of Excellence (ACE-CEFOR & ACE-PUTOR). The main strategic priorities of the University of Port Harcourt are the pursuit of academic excellence, advancement of knowledge and community services through quality teaching, life-long learning, social inclusion, strengthening civil society and policy relevant research that addresses the challenges of contemporary society. To achieve these priorities, the university is guided by the spirit of enquiry, self-reliance, fairness, ethical and professional standards of the various disciplines. Training in entrepreneurship is an essential module for all undergraduate and graduate students in the University. This is however, administered through the various departments and faculties. More information on uniport can be found on <https://www.uniport.edu.ng/>

Core functions

Some of the core functions of the prototyping, fabrication and testing facilities in the University of Port Harcourt include:

A. Support for Research and Development (R&D)

- Provide resources, equipment, and expertise to enable faculty, researchers, students and local industry to prototype and test innovative ideas.
- Facilitate interdisciplinary collaboration in designing and fabricating solutions to complex problems.

B. Education and Skill Development

- Offer hands-on learning opportunities to students in areas such as design, engineering, manufacturing, and product development.
- Conduct workshops, courses, and training programs on prototyping technologies like 3D printing, CNC machining, and electronics fabrication.

C. Innovation and Entrepreneurship

- Act as a hub for innovation, enabling students and researchers to transform concepts into viable products.
- Provide resources for startups and entrepreneurs within the university ecosystem to design and test their products before commercialization.

D. Industry Collaboration

- Partner with industry to work on real-world problems and create tailored solutions.
- Serve as a testing ground for prototypes and technologies developed in collaboration with external organizations.

E. Prototyping and Product Development

- Assist in the end-to-end process of creating functional prototypes, including design iteration, testing, and validation.
- Enable fabrication of high-precision components using state-of-the-art tools and technologies.

F. Quality Testing and Validation

- Offer testing facilities for mechanical, electronic, and material components to ensure compliance with performance and safety standards.
- Support the iterative improvement of prototypes through rigorous testing and feedback.

G. Fostering Sustainability

- Promote the use of sustainable materials and processes in prototyping and fabrication.
- Support research focused on green technologies and environmentally friendly innovations.

H. Community Engagement

- Extend services to the wider community, including local businesses, schools, and non-profits, to support educational and economic development.

- Provide outreach programs to inspire interest in STEM and innovation among younger generations.

I. Resource Hub for Grant and Research Projects

- Provide infrastructure and expertise to support grant-funded research requiring prototyping, testing, and fabrication capabilities.
- Act as a central resource for collaborative projects within the university.

Needs Assessment

- Problem Identification:
 - Lack of entrepreneurship spaces and startup incubation support
 - Demand for technology and research commercialization platforms
- Stakeholder Analysis:
 - University students, faculty, alumni, research institutions, local businesses, government agencies
 - Potential partners: ACE-PUTOR, NGOs, innovation councils, and private companies

3. Market Analysis

- Target Audience:
 - Innovators, startups, SMEs, and university research spin-offs
- Market Opportunities:
 - Support for health-tech, fintech, ed-tech, and environmental technology startups
 - Identified need for innovation hubs in the Niger Delta region to promote local solutions to local problems
- Competitive Landscape:
 - Existing hubs in Rivers State and beyond
 - Benchmark similar hubs (Covenant University's Hebron Startup Lab, Co-Creation Hub)

4. SWOT Analysis

- Strengths:
 - Strong academic base and research ecosystem at UniPort
 - Access to ACE-PUTOR's network and expertise in public health and toxicology
- Weaknesses:
 - Funding limitations and potential bureaucratic delays
- Opportunities:
 - Potential partnerships with government innovation schemes and grants

- Linkage with the oil and gas sector for sustainable technologies
- Threats:
 - Competition from private innovation hubs
 - Political or economic instability affecting operations

5. Technical Feasibility

- Location and Infrastructure:
 - Proposed location on campus with accessible proximity to students
 - Requirements: Co-working spaces, internet facilities, labs for prototypes, event halls
- Technology Needs:
 - High-speed internet, cloud computing support, and software tools for startups
 - Prototyping facilities (3D printers, robotics kits, and IoT devices)
- Staffing Requirements:
 - Hub manager, mentors, technical support team, project managers

6. Financial Feasibility

- Initial Capital Investment:
 - Infrastructure setup, technology, furniture, and utilities
- Operational Expenses:
 - Salaries, maintenance, marketing, utilities, internet
- Revenue Streams:
 - Membership fees, service fees, grants, donations, university budget, public-private partnerships, and event hosting

Operational Plan

1. Vision and Mission Statement

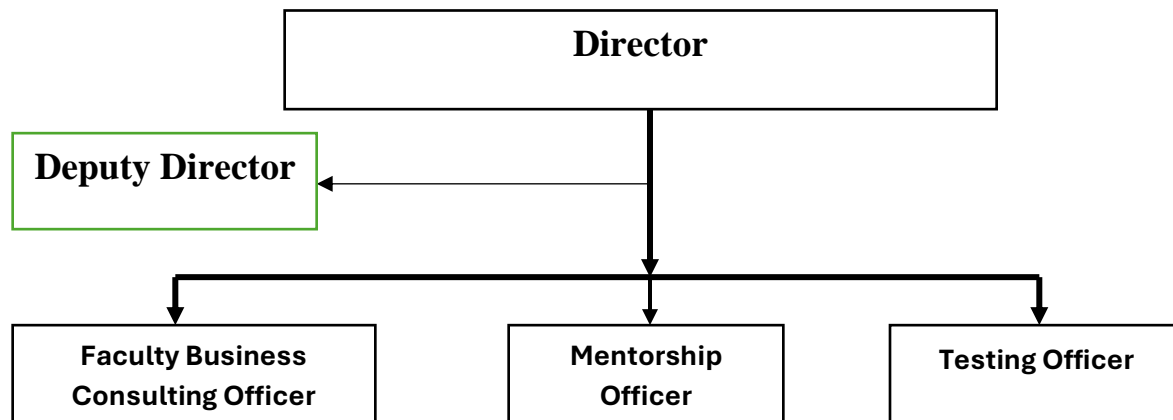
- Vision: To be a leading innovation hub driving technological solutions for regional and national development.
- Mission: To support innovative ideas and entrepreneurship through mentorship, incubation, and strategic partnerships.

2. Governance Structure

- Advisory Board: University officials, representatives from ACE-PUTOR, government partners, private sector stakeholders
- Management Team:
 - Director: Overall leadership
 - Deputy Director
 - Testing Officer
 - Faculty Business Consulting Officer

- Mentorship Officer

Organogram of the UNIPORT Central Incubation Hub



The organogram linking the testing facility, faculty business consulting office and mentoring programme for start-ups and/or entrepreneurs in the sector of the center

Programs and Services

- Startup Incubation Program: Support early-stage businesses with workspace, mentorship, and resources
- Co-working Space: Access for freelancers, students, and SMEs
- Hackathons and Challenges: Foster collaboration and generate ideas for real-world problems
- Training and Workshops: Technical skills (coding, design thinking) and entrepreneurship education
- Research and Commercialization Support: Help faculty and students commercialize their research

Infrastructure and Resources

- Facilities:
 - Office, workshop for carpentry & fabrication, shared workspaces, meeting rooms, multimedia centers, and break areas which has been provided constructed in the premise of the Africa Centre of Excellence in Public Health and Toxicological Research, University of Port Harcourt
- Technology:
 - Cloud-based tools, 3D printers, IoT labs, and prototyping equipment
- Digital Resources:
 - Learning management systems, e-library access, and startup toolkits

Partnerships and Collaboration

- Academic Partnerships: UniPort faculties and departments including Students Industrial Work Experience Scheme (SIWES), Information and Communication Technology Centre (ICTC), Arts Village, Consultancy, Research and Development Centre (CORDEC), Community Service, Science Engineering Workshop.
- Corporate Partners: Oil and gas companies, tech firms, venture capitalists
- Government and NGOs: Collaborate for funding and social innovation programs
- International Partnerships: Leverage ACE-PUTOR's connections with global research institutions
- Private: Boskel Nigeria Limited, Opolo Global

Marketing and Outreach Strategy

- Branding and Awareness: Develop a brand identity for the hub
- Digital Campaigns: Website, social media, email newsletters
- Community Engagement: Launch events, demo days, and innovation contests
- Collaboration with Students and Alumni Networks: Encourage participation and spread awareness

Financial Plan

- Funding Sources:
 - University budget, ACE-PUTOR grants (set-up), government funding (e.g., TETFund)
 - Partnerships with private companies and venture funds
- Revenue Model:
 - Membership fees, service fees, program fees, partnerships, and sponsorships
- Projected Budget:
 - Infrastructure: ₦585,000,000 million
 - Operating Expenses (Annual): ₦7,500,000 million
 - Income Projections: ₦35,000,000 million per year through various revenue streams

Risk Management and Mitigation Plan

- Identified Risks:
 - Financial shortfalls, technological disruptions, and market uncertainties
- Mitigation Strategies:
 - Regular budget reviews, diversification of income streams, and contingency planning

Monitoring and Evaluation (M&E)

- Performance Indicators:
 - Number of startups incubated, success rate, partnerships secured
 - Revenue generation and community impact metrics
- Reporting Mechanism:
 - Quarterly reports to the university and board of directors
- Continuous Improvement:
 - Gather feedback from users and stakeholders to improve services

Implementation Timeline

| Phase | Activities | Timeline |
|------------------------------|--------------------------------------|------------|
| Phase 1: Planning | Feasibility study, fundraising | Month 1-3 |
| Phase 2: Infrastructure | Facility setup, technology purchase | Month 4-6 |
| Phase 3: Staffing & Training | Hire staff, mentor onboarding | Month 7-8 |
| Phase 4: Launch | Marketing, partnerships, and opening | Month 9-10 |
| Phase 5: Operation | First batch of programs and events | Month 11+ |

Budget and responsibility

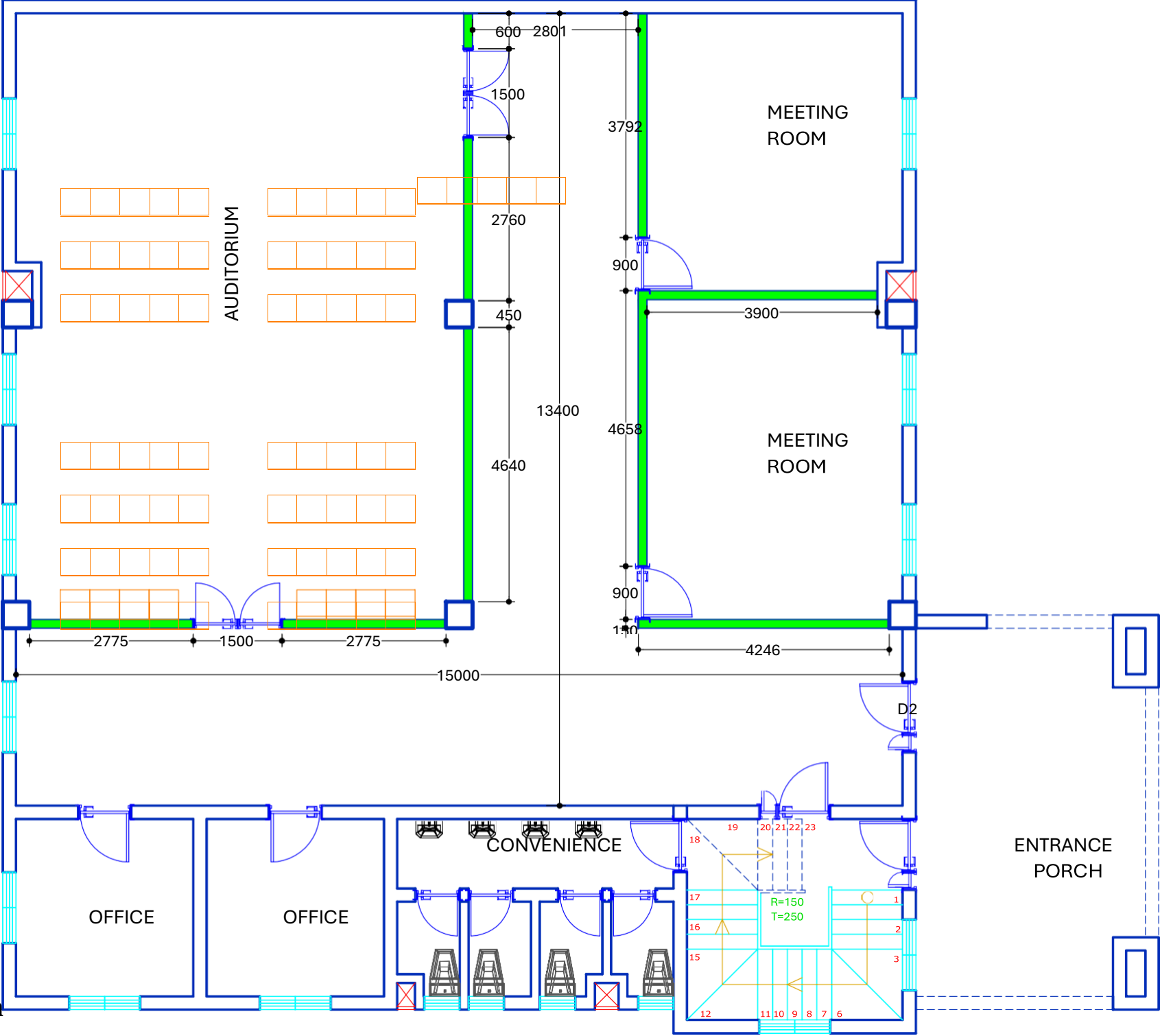
Budget Estimate

| Category | Cost (Naira) | Responsibility |
|----------------------------------|--------------------|---|
| Capital Cost | | |
| Construction of facility | 250,000,000 | Africa Centre of Excellence in Public Health & Toxicological Research (ACE-PUTOR) |
| Furnishing of facility | 85,000,000 | Africa Centre of Excellence in Public Health & Toxicological Research (ACE-PUTOR) |
| Testing equipment | 250,000,000 | Tertiary Education Trust Fund (TetFund) |
| Total Capital Cost | 585,000,000 | |
| Recurrent Cost (Annually) | | |
| Staff Allowances (Yearly) | 1,000,000 | University of Port Harcourt (UPH) |
| Marketing & Communications | 500,000 | University of Port Harcourt (UPH) |
| Training Programs | 5,000,000 | University of Port Harcourt (UPH) |
| Operational Expenses | 1,000,000 | University of Port Harcourt (UPH) |
| Total Recurrent Cost | 7,500,000 | University of Port Harcourt (UPH) |

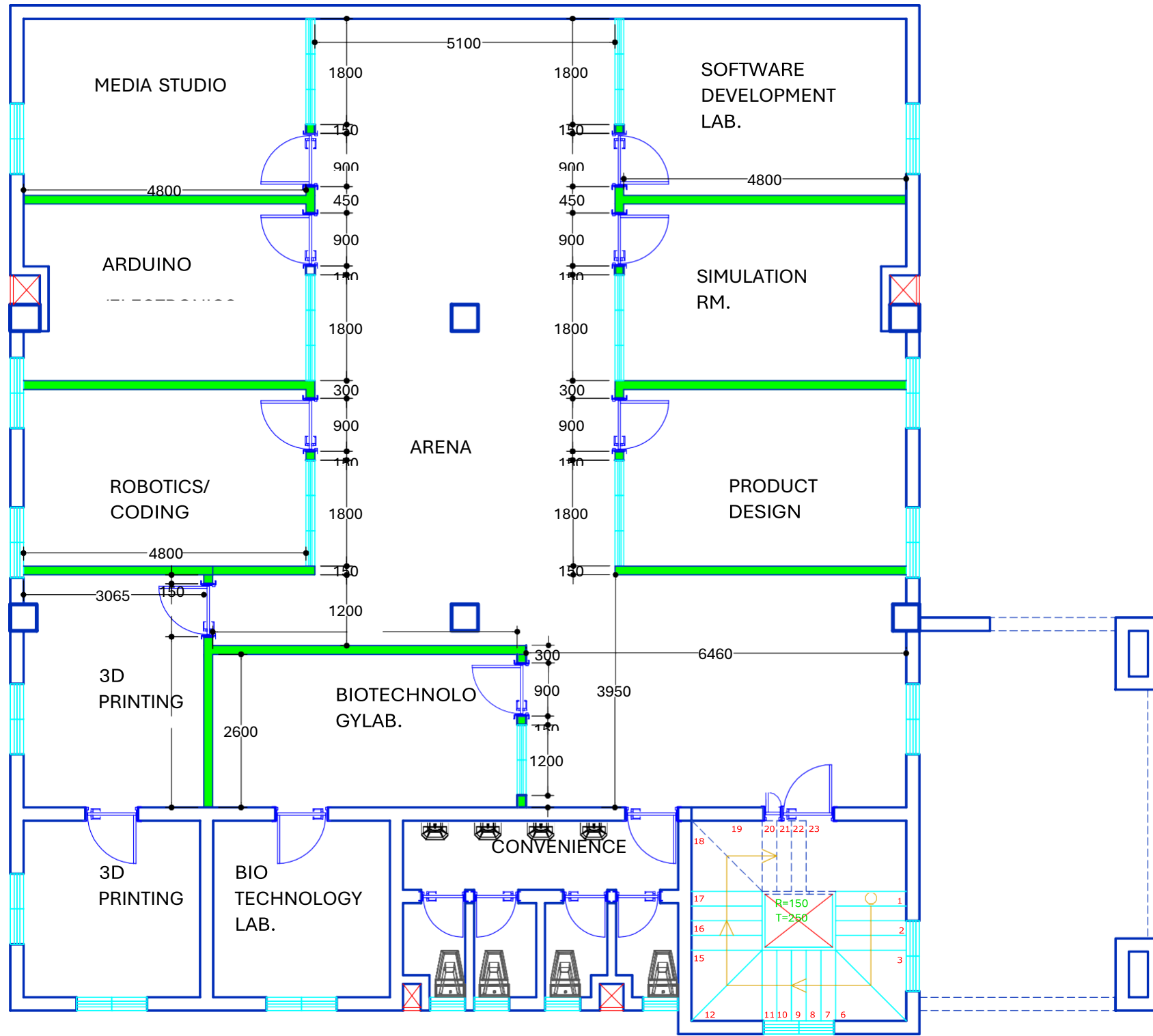
Conclusion and Recommendations

- The Innovation Hub at the University of Port Harcourt is feasible with appropriate planning, partnerships, and funding.
- Funds have already been committed and development of the structure completed by the Africa Centre of Excellence in Public Health and Toxicological Research (ACE-PUTOR).
- Recommended next steps include securing initial funding, establishing partnerships, and forming the governance structure.

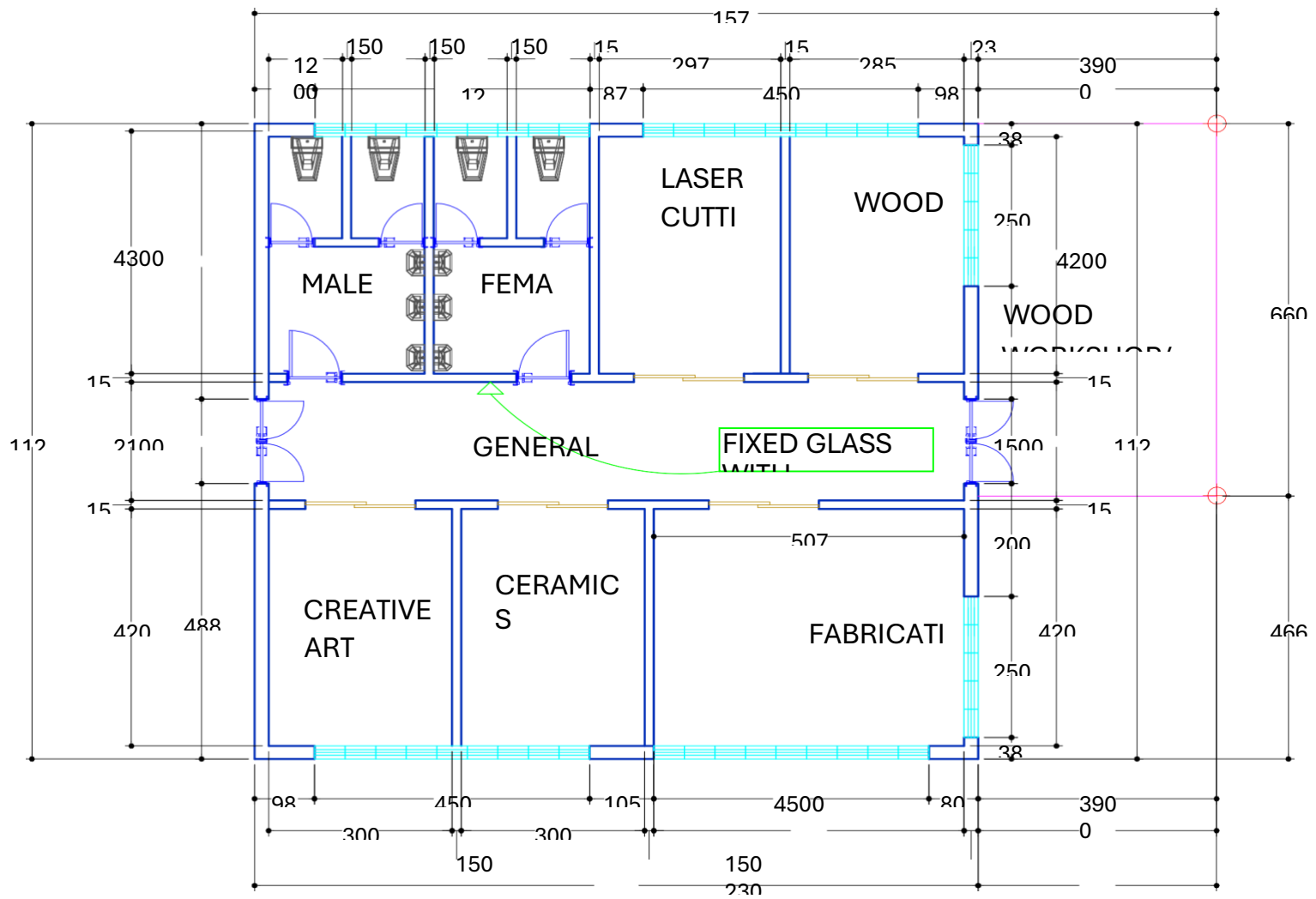
Appendices



Ground Floor Plan



First Floor Plan



Workshop Plan