



PROJECT SUMMARY

Ref No.: MRIC/CRIGS-25-BG/P01	Title: Concept refinement and scaling of an automated 40 feet container farm for sustainable food production in Mauritius
Local Institution: Prodesign Facilities Ltd	
Collaborating Institution: Food and Agricultural Research and Extension Institute	
Project Leader	
Mr Vikramsing Bhujun	Prodesign Facilities Ltd
Research Collaborator(s)	
Name	Organisation
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TECHNICAL ABSTRACT	
<p>This project proposes the development of a next-generation 40-foot container farm, building on the successful 20-foot proof-of-concept to address food security and pesticide-free production. The objective is to scale up output while introducing innovative control strategies and autonomous functions. Research will focus on optimising the integration of PLCs, sensor arrays, and AI-based image monitoring to automate irrigation, nutrient dosing, lighting, and climate. The innovation lies in modular control routines and adaptive fail-safe responses for tropical CEA. Tray layout and energy efficiency improvements will also increase usable growing area and yield. The system has strong commercial potential as a scalable, year-round farming model for urban areas and island economies. The project will explore novel IP in automation logic and AI routines, with prior art review included to support potential IPR claims. It aims to contribute to sustainable, tech-enabled agriculture in Mauritius and beyond.</p>	
Key Words: Controlled Environment Agriculture, Automated Container Farming, AI-Enabled Crop Monitoring	