Goldsmiths Corporation Ltd.

Seed Stage Executive Overview

Introduction & Problem Statement

Goldsmiths Corporation Ltd. is a UK-based Seed-Stage start-up specialized in ground-breaking robotic solutions for agriculture, aiming to become a global pioneer in cost-effective, automated harvesting. We focus on solutions for high value specialty crops that currently rely on a rapidly diminishing supply of manual labour, and whose persistence and profitability is critical for future crop diversity and food security. The scarcity of pickers, which has become significant even in developing countries like Colombia, Peru, and Mexico, is further exacerbated by the failure of current academic and industrial robotic projects to provide cost-effective solutions for agricultural players.

Proposed Solution

We've developed a revolutionary harvesting approach, capable of reducing the fastest research-standard cycle time from 5 seconds per fruit to a projected 0.05 seconds per fruit for tabasco chilli peppers. While rates may vary for different crops, sub-second harvesting times are readily achievable. Cayenne chilli peppers, for example, can be harvested with a cycle time of 0.2 seconds. Beyond this technological feat, we have designed a financial model that makes the technology affordable even to farmers in developing countries, without sacrificing profitability for Goldsmiths. Our analysis indicates that when deployed efficiently, our harvester could generate savings of up to 25% on picking costs for farmers while under an 85% gross margin leasing scheme. Our technology is highly versatile, capable of harvesting a huge variety of crops, from chillies, to strawberries, to avocados, irrespective of whether the fruit is ripe or green. One of the biggest strength of our approach is that we can adapt the technology to a new crop in a matter of days, allowing farmer to adopt the technology with very little overhead.

Traction

The project has completed an 18-Month Pre-Seed Stage of research, idea development, system validation, and component testing under the founder's MSc Robotics Thesis at King's College London. Over this time we have gathered substantial industry interest and support, with Hugo Restrepo y Cia joining the venture as a key shareholder and future client. McIlhenny Company, the manufactures of TABASCO and one of the largest hot sauce producers in the world, sponsored the necessary equipment, logistics, and components for the Thesis project, and expressed significant support and enthusiasm for the technology's possibilities, as well as signalling that they would be interested in investing once the project has produced a working prototype. The design and code for the majority of the system components has already been completed, significantly de-risking the most challenging aspects of development, and assuring a streamlined execution of the next stages of the project.

Seed Stage:

We are currently looking for **£350,000** of capital (£250,000 of which have **SEIS Advance Assurance**) to fund an intensive prototype development stage. Over 12 months we want to build a semi-autonomous harvester that will enable us to stress-test our approach and models, and validate the projections we have made with regard to picking speed, technological capacity, and profitability. During this stage we will onboard a highly skilled and creative individual to take over the AI sector of the company, and further improve the approach and robustness of the models already developed by the founder.

Shareholder Team:

Martin Restrepo: Martin holds a BEng in Design, Innovation & Creative Engineering from Queen Mary, University of London, and an MSc in Robotics from King's College London. His academic focus in engineering design, materials, manufacturing, computer vision, AI methodologies, and neural network architectures provides the robust technical foundation vital for this project.

Hugo Restrepo y Cia: A family company and the largest producer and exporter of chilli pepper mash from Colombia and Peru, Hugo Restrepo has over 45 years' experience in the business, and currently supplies pepper mash to some of the biggest players in the industry across the world. The company comes with a team of agricultural experts that are critical to the field success of the harvester, as well as a network of clients and growers that play a key role in the early stage 'development' market for the company's harvester.

martin@goldsmiths.cc

Business Model & Financial Model

Goldsmiths will develop, design, and manufacture robotic solutions for agriculture, and lease them out to farmers, partner companies and cooperatives under an initial 85% gross margin, beginning with chilli peppers and then diversifying to include other crops around the world. We anticipate that with further R&D we can halve our manufacturing cost within the first five years

The current design, which uses mostly 'off-the-shelf' components, has the following rounded financial setup for Cayenne chilli peppers for 1 machine, over 8 months of harvest season, based on mixed pricing for Colombian & Mexican bulk product. Crops and markets with premium pricing allow for even greater financial flexibility.

Raw Harvester Build Cost:	80,000 USD
Picking Capacity (at 66% Efficiency):	2000 Tonnes
Current Picking Cost (2000 TN):	200,000 USD
Yearly Lease:	140,000 USD
Machine Operation Cost:	30,000 USD
Farmer Savings:	30,000 USD
Projected Harvester Lifespan:	5 years
Total Maintenance Costs:	20,000 USD
Gross Margin per Machine (5 yr.):	**600,000 USD**

Market Analysis

Through the strategic partnership with Hugo Restrepo y Cia and its client network, Goldsmiths Corporation has access to an initial 'development' market that we know has a pressing need for this solution, and where the warm relationship we have with our clients and their other growers provides us with a sizeable initial 'development' market of approx. **18 million USD**. This value is exclusively derived from the current picking costs of our immediate network, which is around **140,000 tonnes** of various types of chilli pepper. For the local market alone we would need **75 harvesters**, which would give us an annual gross margin of **9 million USD.**

Chilli production outside of the local market, including for other uses than sauce, is considered a 'secondary market'. The following are estimates based on studies and projections by various market research institutions and publications, where the value is based on a projected growth rate up to 2030.

Hot Sauce: $8.5 billion USD @ CAGR 6.5 %
Dried Chilli: $2.3 billion USD @ CAGR 6.11 %
Fresh Chilli: $0.7 billion USD @ CAGR 3.1 %
Chilli Oil: $3.5 billion USD @ CAGR 6.2 %

Total: $15 billion USD The corresponding picking market might be around 5%, which is **$750 million USD**

The global food market, which is estimated at 880 million tonnes of fruit per year, contains many varieties that can be tackled with our technology, but the development of a concrete penetration strategy for those markets will happen after the current seed stage is completed and we have established ourselves within our local 'development' market.

Road to Market

Pre- Seed Stage*: £5,000 GBP | 18 months | Proof of Concept and Feasibility Evaluation* ***| COMPLETED***

Seed Stage*: £350,000 GBP | 12 months | Semi-Autonomous Prototype Development* ***| CURRENT STAGE***

Series A*: £2,000,000 GBP | 12 months | Commercial Launch and R&D Reduction of Manufacturing Cost (~50%)*

Series B*: £10,000,000 GBP | 24 months | Product Diversification | Cashflow, Equity & Debt Financing*

Series C*: £30,000,000 GBP | 24 months | Global Expansion | Cashflow, Equity & Debt Financing*

martin@goldsmiths.cc