

ASX Announcement

25 November 2024

Papyrus Commercialisation Roadmap - Shareholder Presentation

Papyrus Australia Ltd (ASX: PPY) is pleased to announce the release of its latest shareholder presentation, which provides a comprehensive overview of the company's strategic initiatives and future growth prospects. Which will be presented at the 2024 AGM.

The presentation covers the following key topics:

1. **Global Opportunity for Packaging Markets and Pulp Supply:** An overview of the expanding global markets for sustainable packaging solutions and the increasing demand for eco-friendly pulp supply.
2. **Commercialisation Roadmap:** A overview of the steps Papyrus Australia is taking to commercialise its technology the steams it is targeting for revenue generation.
3. **Key Projects in the Pipeline:** Insight into the major projects currently under development, showcasing the potential impact on the company's growth.

As indicated in the presentation:

- Capital cost information provided is sourced predominantly from the provision of quotations from various suppliers.
- Production costs are based on equipment supplier consumption rates and benchmark costs.

Executive Chair Al Jawhari commented, "This is an exciting milestone in our commercialistaion efforts to super focus on the growing global demand for eco-friendly packaging and pulp products."

About Papyrus Australia Limited

Papyrus Australia Limited is an innovative company focused on the sustainable development of packaging and agricultural products made from banana fibre. Through our proprietary technology, we transform agricultural waste into valuable, eco-friendly products, contributing to a greener and more sustainable future.

Al Jawhari - Chair

End

Attachment – FY24 shareholder presentation





A U S T R A L I A
Papyrus
L T D

Transformation for a Sustainable Future



Papyrus Egypt JV



Vietnam JV



Demonstration Plant



Papyrus Australia



Existing Operations 

Current Projects 

Future Project Pipeline 

Papyrus Australia Limited (ASX:PPY)

Shareholder Presentation

November 2024

World Banana and Plantain Crop Area Harvested
Source: [FAO STATS](#)

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All dollar values are in Australian dollars, unless otherwise stated.



KEY MARKET STATISTICS

Capital Structure*

ASX Code	PPY
Share Price	1.3c
Market Capitalisation	\$6.77M
Shares on Issue	520.47m

Substantial Shareholders**

Certane Ct Pty Ltd - L39 Capital	14.26%
BIJO(SA)Pty Ltd - Azer Family A/C	6.24%
Mr Ramy Azer - Azer Family A/C	6.12%
Rondelle Pty Ltd - MI & He Craig Super Fund A/C	5.74%
Stroud Nominees Pty Ltd - Byrt Super Fund A/C	5.12%
Union Pacific Equities Pty Ltd	3.16%
Fay Fuller Foundation Pty Ltd	2.48%
V P Rigano & Co Pty Ltd	2.36%
BNP Paribas Noms Pty Ltd	2.34%
Mr Karim Mohamed Hamdouh Abbas	2.26%

Note: * As at 20-11-24 (AUD), ** As at 7-10-24

Our Team



Executive Chair

Mr. Al Jawhari

B.Eng (Aero./Mech.), Lt. Col.(EAF, Ret.)

Al is an innovator and tech. commercialisation expert with 25+ years of C-level leadership experience. With 4 successful business exits Al is an internationally recognized business leader known for crafting the required strategic vision to achieve business goals offering a unique blend of leadership, innovation, executive acumen, global team building, and credited with strong ROI and operational excellence and brings to the governance and leadership of Papyrus, the expertise needed to secure international opportunities.



Non-Executive Director

Mr. Brad Lemmon

B.Com

Brad brings over 30 years of experience and a range of skills from the construction materials, mining services, waste recovery and recycling industries, spanning operations, logistics, commercialisation and capability integration progressing strategy to execution.

A highly effective business leader with international trade experience and a strong governance focus. Brad has led large organisations through major transformation delivering an efficient, sustainable and profitable footprint.



Non-Executive Director & Company Secretary

Mr. Vince Rigano

BA Accounting, CPA

Vince is a CPA with over 25 years' experience in corporate accounting, management consulting and company secretarial. Vince has been providing Company Secretary services to Papyrus for several years.

Vince provides management accounting and consulting services to a variety of industry sectors including start-ups.



Non-Executive Director

Mr. David Attias

MBA Banking and Finance

Driven by business opportunity, David brings a solid financial, analytical and technological background to the Papyrus team. David is a serial entrepreneur, having founded and successfully managed e-commerce and hospitality businesses which are now profitable under management.

He is currently a Director at L39 Capital, a non-executive director at Creative Food Australia, and has held a prior funds management position in a Blockchain Technologies Investment Fund.



Non-Executive Director

Mr. Nick Di Girolamo

B.Law

Mr Di Girolamo has been a solicitor for over 30 years and was admitted to the Supreme Court of NSW in 1993. A well credentialed high-stake commercial negotiator, Mr Di Girolamo has senior executive experience and robust leadership skills and is recognised for building strong long-term working relationships. He has gained commercial and financial management skills and strategic growth experience across a diverse portfolio during his career.



Non-Executive Director

Mr. Jim Huang

MEng, MPhil, CFA, FRM

Mr. Huang brings a unique blend of expertise spanning engineering, technology, and business finance. With valuable experience in cross-border M&A, corporate advisory, and capital-raising efforts, he has played a key role in complex financial transactions across the Asia-Pacific region.

He has managed businesses in Asia, introducing innovative technologies in the waste processing and recycling sectors while collaborating with State-Owned Enterprises and local governments.



Chief Operating Officer

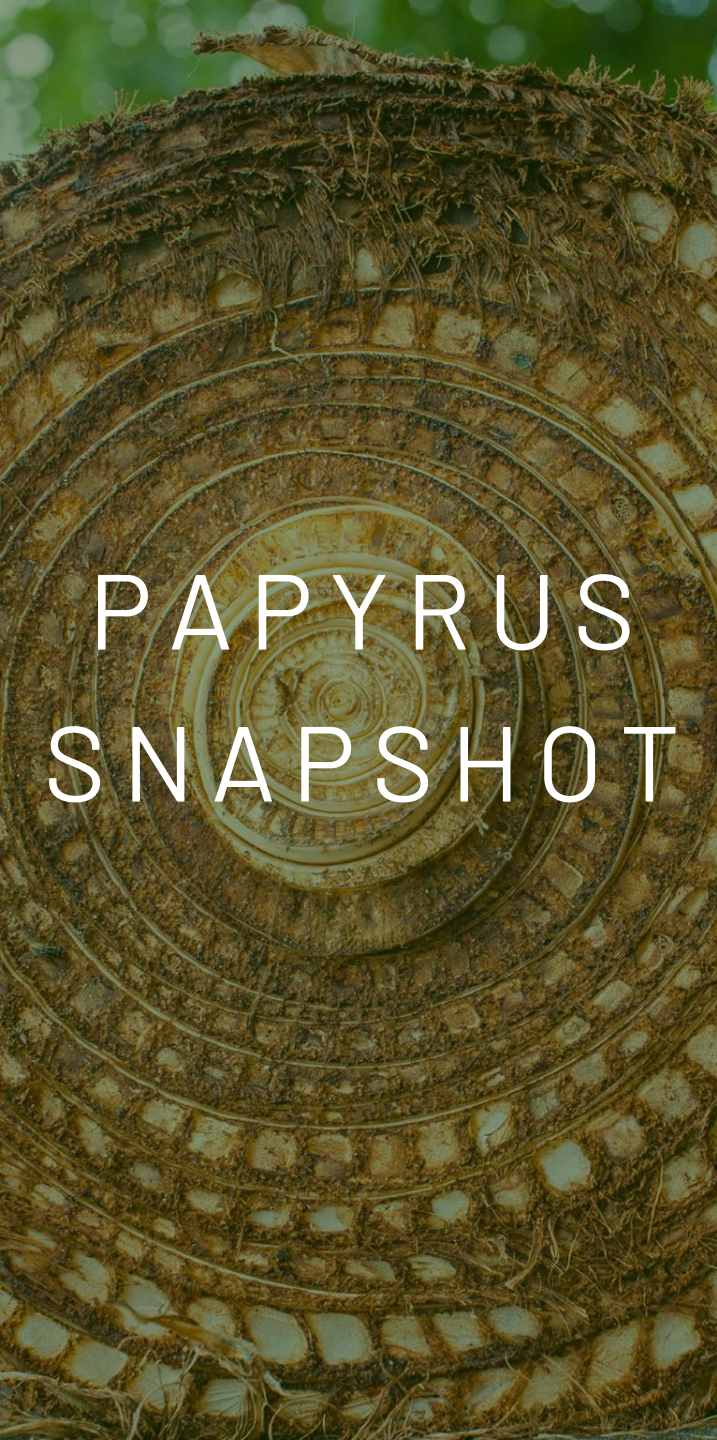
Mr. Daniel Schmidt

B.Bus (Mgt./Retail)

Daniel is a business leader with over 20 years' experience in heavy industry, mining, and manufacturing operations.

He has delivered significant change and performance improvement programs, across operations, strategic procurement and continuous improvement. He has held senior management roles, across sales, operations and commercial functions leading large multifunctional teams across multiple sites.





PAPYRUS SNAPSHOT

About Us



Vision

Be the global **technology leader** for the conversion of banana plantation waste into consumable products



Mission

Replace plastic and forest sourced food packaging products with a **100% biodegradable**, renewable, circular economy product



Goals

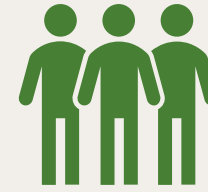
Engage growers and manufacturers in the **global commercialisation** of the technology
Create a global waste management supply chain across the key **banana growing regions**

Positive Impact Ambition



Carbon Negative

Eliminate methane emissions equivalent to **50 million tonnes of carbon***



Community Positive

Create opportunity for up to **100,000 people*** in developing countries to earn a fair wage



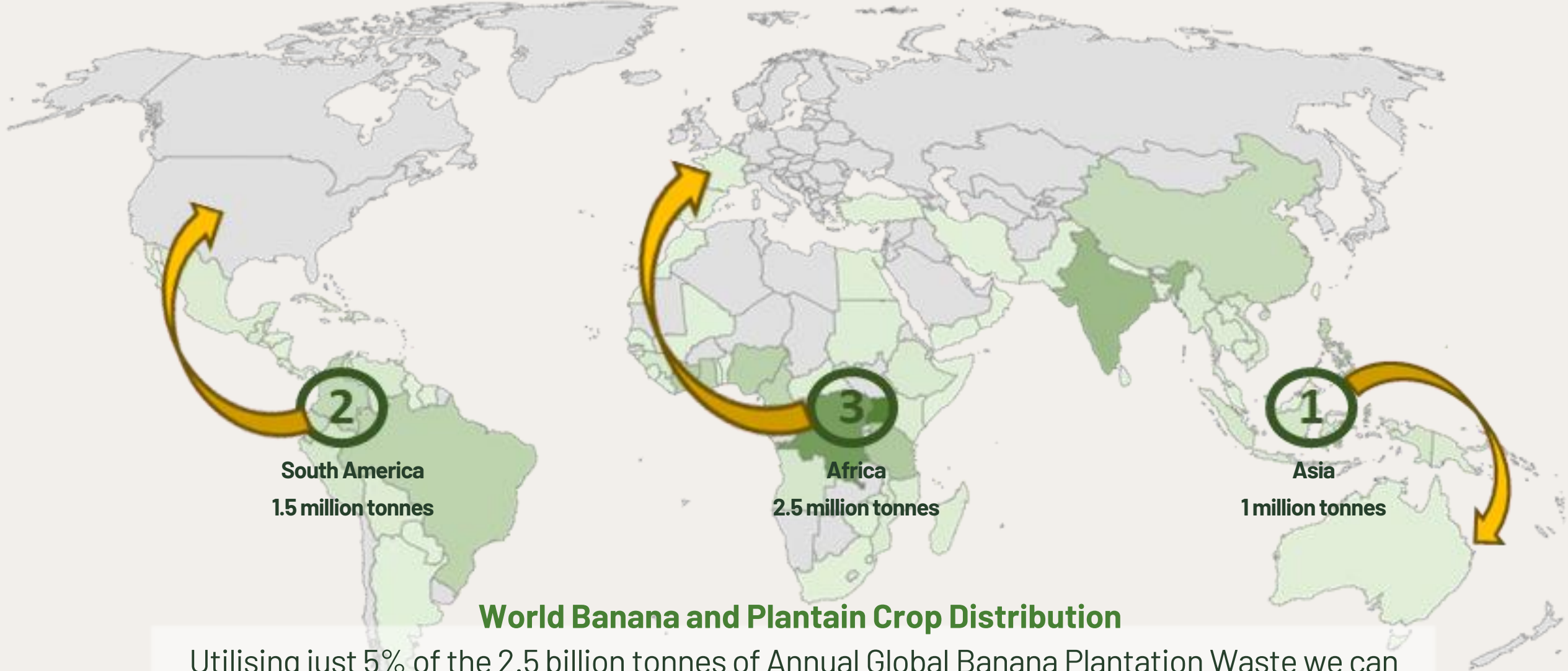
Chemical Free

Reduces the risk of up to **4 million tonnes of microplastics*** entering the ecosystem and food chains

*Estimates based on producing 5 million tonnes of virgin banana fibre pulp for packaging products



Significant Global Supply Opportunity



World Banana and Plantain Crop Distribution

Utilising just 5% of the 2.5 billion tonnes of Annual Global Banana Plantation Waste we can convert 5 million tonnes of virgin banana fibre pulp into 200 billion sustainable packaging trays*

Note: * See slide 18 for additional detail

Strong Growth Global Packaging Markets

Moulded Pulp Packaging*

Value 2022: \$3 BN

Value 2032: \$7 BN

CAGR: 8%

Containerboard Packaging*

Value 2018: \$160 BN

Value 2025: \$250 BN

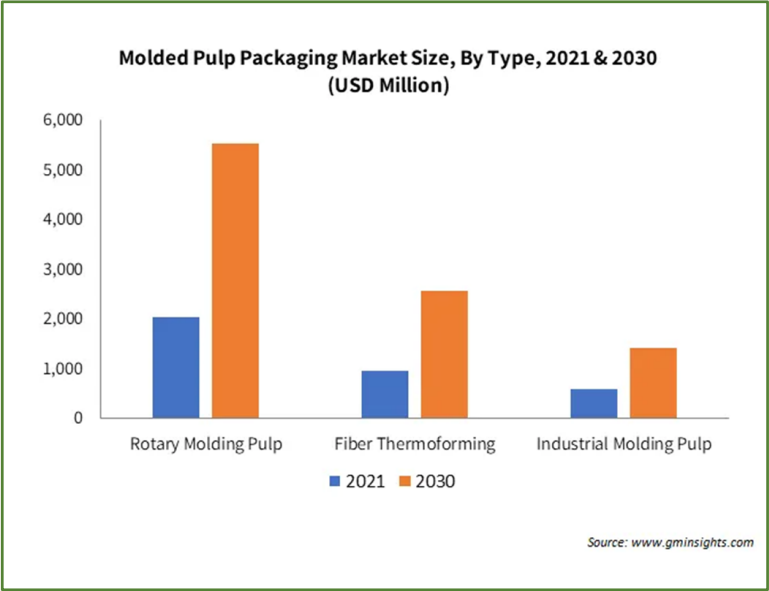
Packaging Materials*

Value 2023: \$1,330 BN

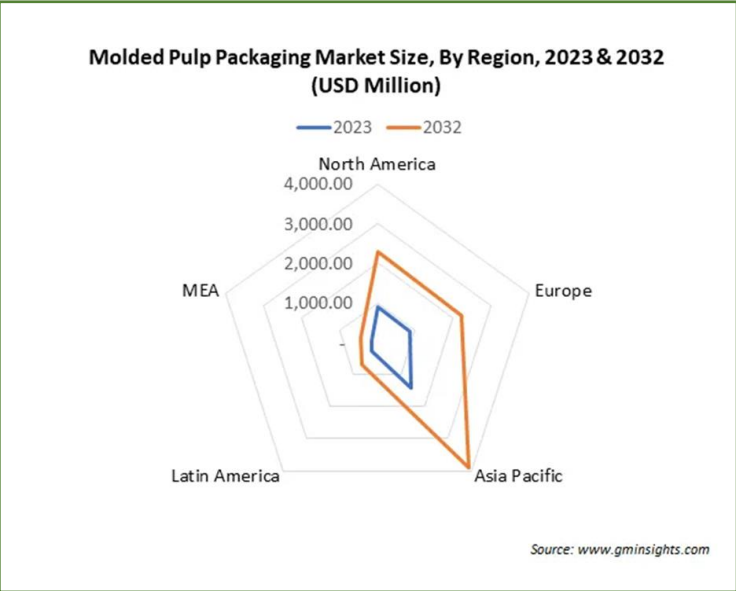
Value 2032: \$2,060 BN

CAGR: 4.9%

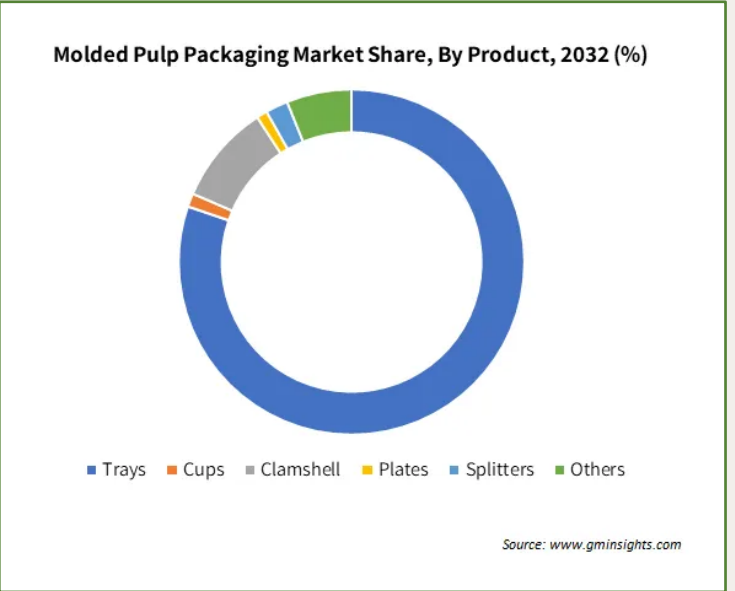
By Equipment*



By Region*



By Mould Type*



Note: * See slide 18 for additional detail
 Note: All Values USD

Key Packaging Market Drivers



Increasing globalisation of agriculture (and other) supply chains will increase the demand on packaging



Focus on sustainable and eco-friendly packaging solutions with a growing demand for materials that reduce the environmental impact



A conscious move by people to reduce their consumption of plastic has led to an increase in the demand for biodegradable products



Governments around the world are progressively banning single use plastics and providing infrastructure for recycling and composting of biodegradable products



Biodegradable Paper and Plastic Segment set to grow by 11% CAGR

Papyrus Ramp Up Milestones

2020 Technology Transition to Packaging

Papyrus pivots the technology and product focus from veneers to wet moulded packaging to capture the growing global trend to transition away from single use plastics.

2022 Commercialisation of Phase 1 Technology

Through our joint venture operation Papyrus Egypt, Papyrus commenced commercialisation of phase 1 technology focused on rotary moulding blended fibre in non-food contact applications.

2023 External Trials for Food Contact Application

Papyrus Australia with a new process design successfully tested 100% banana fibre in Thermoforming moulding with an independent R&D facility with a view to enable food contact applications.

2024 Establish R&D facility for Phase 2 Technology

Papyrus will establish an R&D facility with a research partner to enable further testing to enable scaling up of the phase 2 process designs and product conformance testing for food contact applications.

2025 Commercialisation of Phase 2 Technology

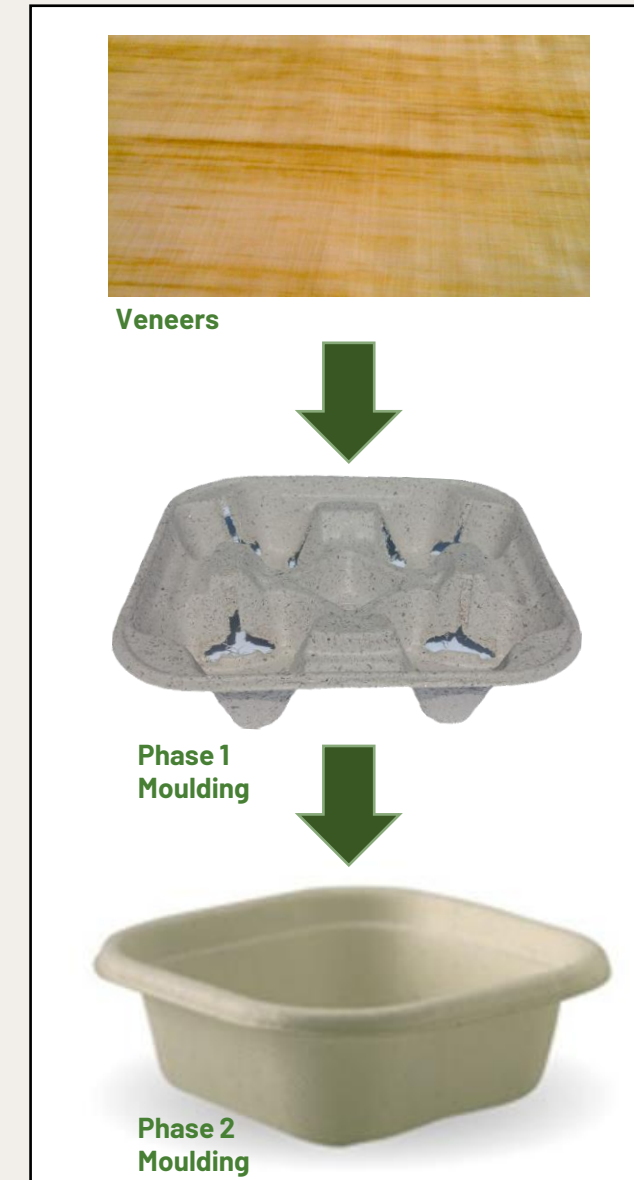
We have 2 key projects in our key markets ready to commence detailed feasibility studies.

2026 + Future Research and Development

Expand utilisation of liquids from plantation waste

Expand technology to new sources of agricultural waste

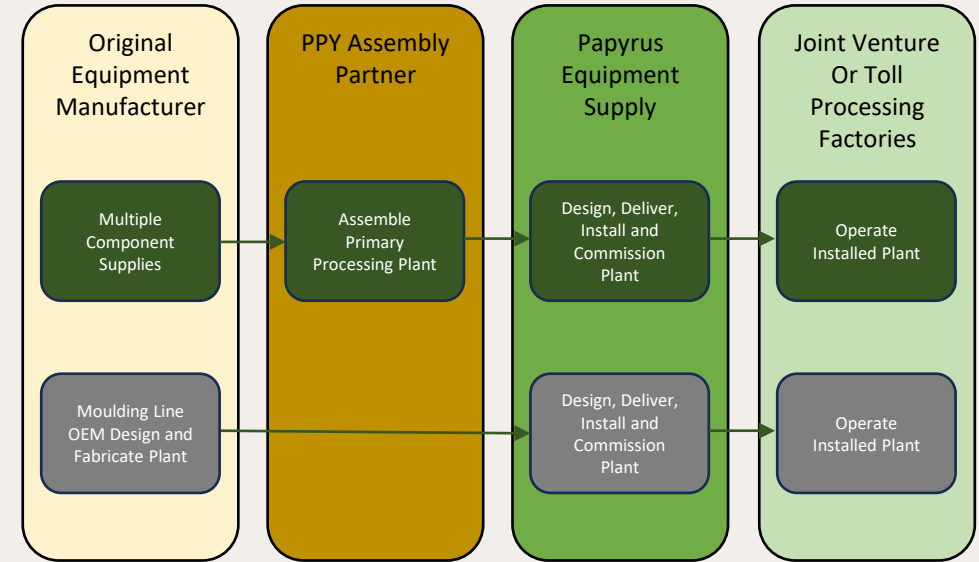
Expand end use applications



Papyrus Commercialisation Model

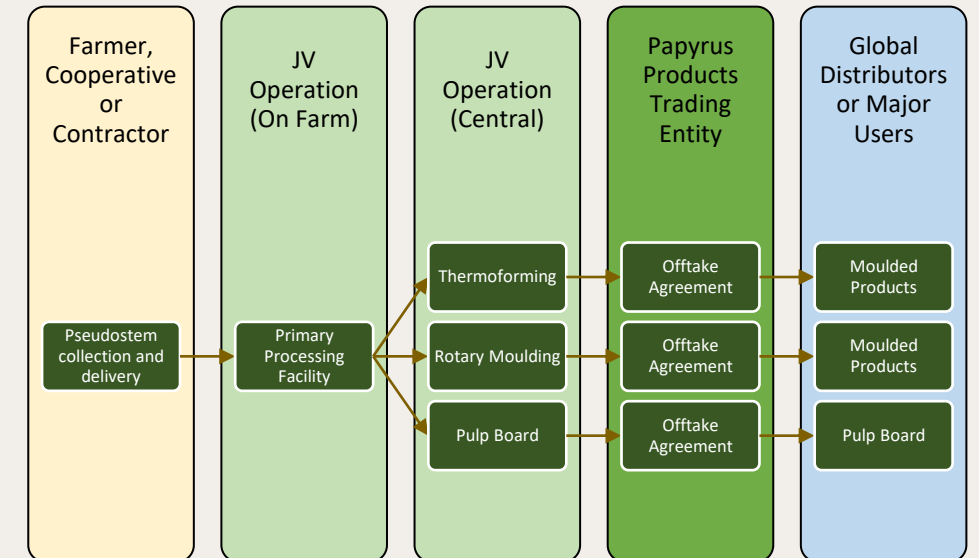
Stream 1 - Equipment Manufacturing and Sales

1. Designed internally with expert partners
2. Fabricate through partner organisation
3. Deliver, install and commission through local contractors
4. Provide project management and supervision through inhouse resources
5. Primary focus is to support the expansion of the JV facilities

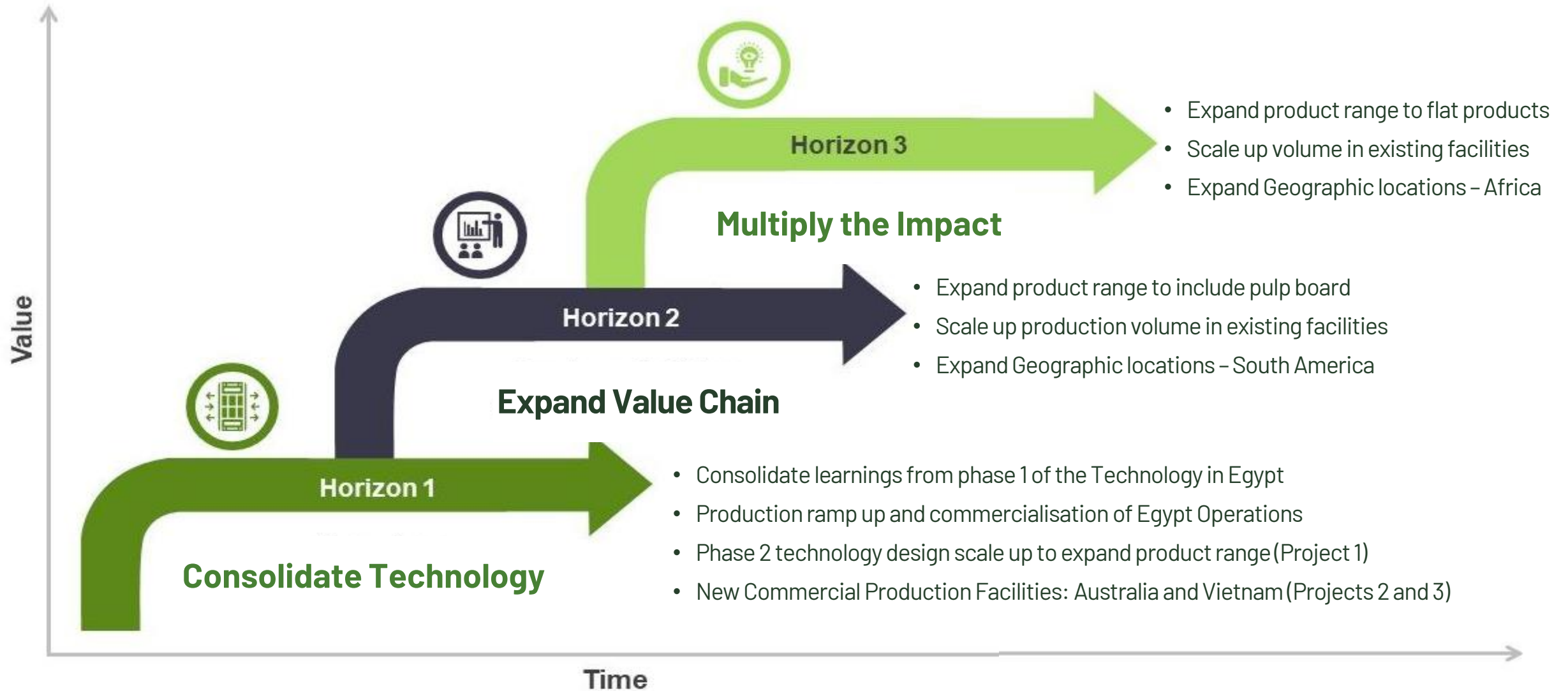


Stream 2 - Joint Venture Production Facilities

1. Papyrus will target 50% ownership of the joint venture production facilities
2. Ideal joint venture partners have significant access to banana plantation waste
3. Papyrus will contribute to equipment capital requirements
4. Each production facilities will be targeted to produce up to of 20kt of moulded fibre products or pulp board for sale to distributors or moulded pulp converters and container board producers
5. Papyrus provides support for major B2B end-product sales



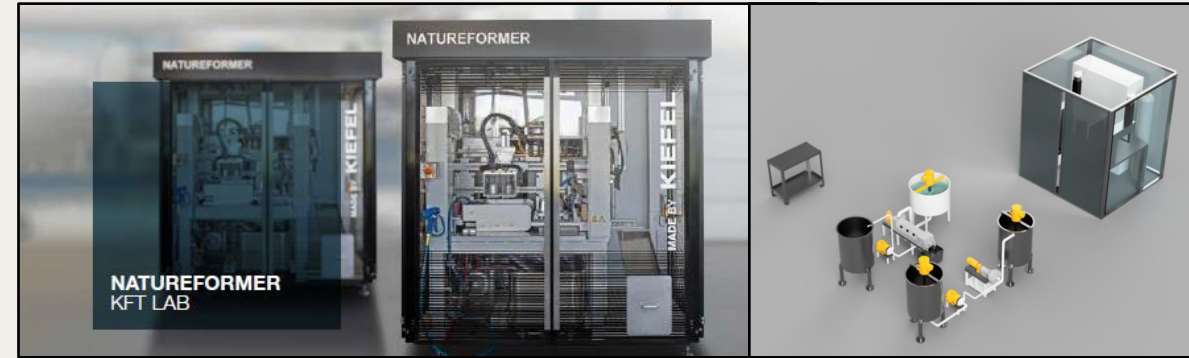
Papyrus Growth Horizons



Horizon 1: Technology Development and Commercialisation Projects

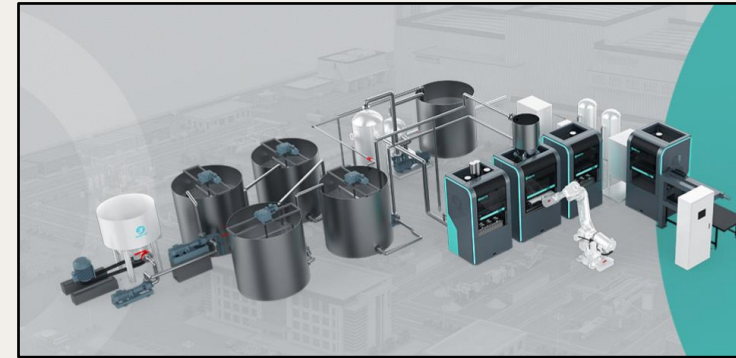
Project 1: Technology Prototype Australia

1. Prototype of new Phase 2 Technology based in Australia
2. Food grade packaging applications
3. Commercial scale design and engineering
4. Product testing and certification
5. Customer sample production



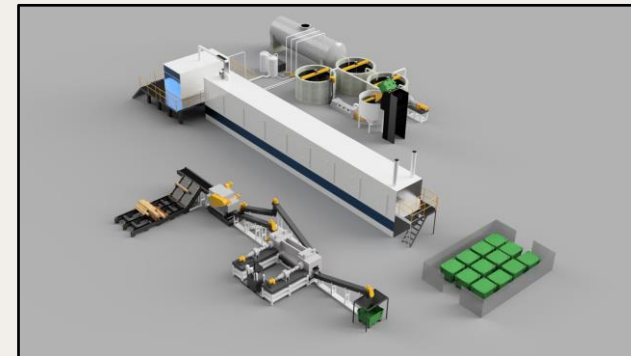
Project 2: Commercial Demonstration Plant Australia

1. Pilot site for commercial scale production with Phase 2 Technology
2. High value thermoformed/thin wall packaging applications
3. Target markets are medical, farm produce and takeaway trays and packaging



Project 3: Commercial Plant Vietnam

1. Commercial scale high volume tray production
2. High volume rotary moulding and pulp board production
3. Target markets is SE Asia takeaway trays and moulding manufacturers



Project 1: Phase 2 Technology Scaling and Commercialisation

Purpose

This project is for a small-scale prototype plant to enable Papyrus to take the Phase 2 Technology developed in Australia from lab scale proof of concept (TRL3) to commercial scale design (TRL4-5). Focus will be on the primary processing and pulp preparation stages to produce a pulp that is suitable for wet pulp moulding equipment from existing OEM's.

Key Benefits of Phase 2 Technology

1. It is not reliant on blending with other fibres
2. There is an increased range of applications for the pulp especially high value food contact packaging
3. It provides a platform for pulp board production – high volume simplified production

Key Outcomes

1. Complete process and mass flow functional testing, design and optimisation
2. Complete moulded product testing, additive testing and coating testing
3. Produce samples for prospective customers and production partners
4. Complete detailed design for commercial scale primary processing and pulp preparation

Key Project Elements

1. Design, procure and install prototype
2. Operate pilot plant and produce and test samples
3. Commercial scale detailed design

Total Cost (FY25)

Anticipated Cost *

\$ 175k

\$ 175k

\$ 350k

\$ 700k (AUD)

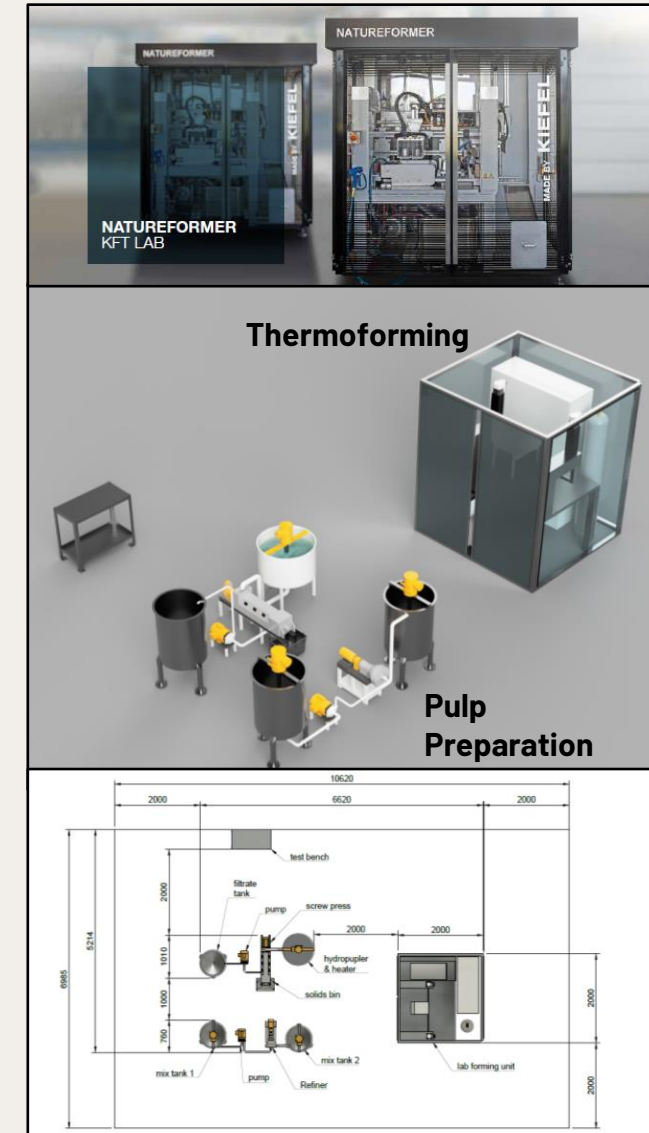
Anticipated Timing

Sep 24 – Feb 25

Feb 25 – Jun 25

Feb 25 – Apr 25

Sep 24 – Jun 25



Note: * See slide 18 for additional detail

Project 2: Commercial Demonstration Plant North Queensland

Project Description

Establish a new Banana Fibre Thermoforming line in North Queensland based on the Phase 2 Technology. This commercial scale plant will demonstrate the capability of a full vertical supply chain with Banana fibre Pulp. The site will be a fully integrated commercial factory focused on Australian customers and distribution.

Target Markets

1. Disposable Medical Trays
2. North Queensland Farm Produce Packaging
3. Australian Food Packaging

Target Production, Capacity and Capex

	Phase 1	Phase 2	Total
1. Production Capacity (Trays)*	18m	66m	84m
2. Equipment Capex (USD)*	\$ 0.6m	\$ 1.3m	\$ 1.9m

Project Milestones

1. Project Feasibility
2. Project Execution
3. Operation Phase 1
4. Operation Phase 2

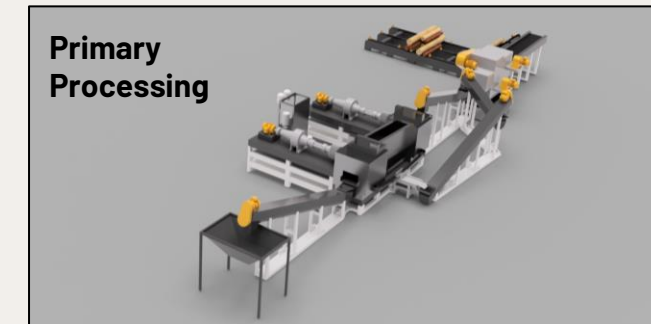
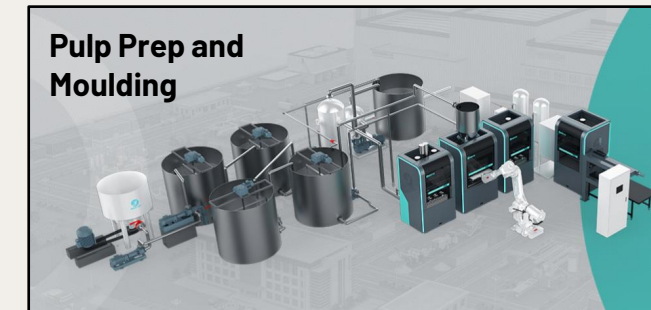
Anticipated Timing

Oct 24 – April 25
 Late FY25
 Early FY26
 Early FY27

Project Structure

- Papyrus to provide initial offtake agreements, capital and business infrastructure
- JV Partner to provide waste supply, factory location and initial labour

Note: * Production capacity relates to the equipment capacity and does not guarantee revenue for the project or demand for the products. The timing of the Project Milestones are indicative only and may be subject to change. See slide 18 for additional detail.



Project 3: Commercial Production Plant Vietnam

Initial Project

Establish a new Banana Fibre Rotary moulding line in Viet Nam based on the Phase 2 Technology to produce cup holders and other moulded fiber trays.

Future Project Scale

Phase 1 of the project will utilise approximately 6% of the waste from the 13,000 Ha of banana plantation available through Thanh Dung Co. If the project expands capacity to utilise all the available waste from the plantation, the site could produce up to 20,000 tonnes Banana Fibre moulded products or pulp board for export.

Target Production, Capacity and Capex Phase 1

- | | | |
|----|------------------------------|---------|
| 1. | Production Capacity (Trays)* | 45m |
| 2. | Equipment Capex* | \$ 1.5m |

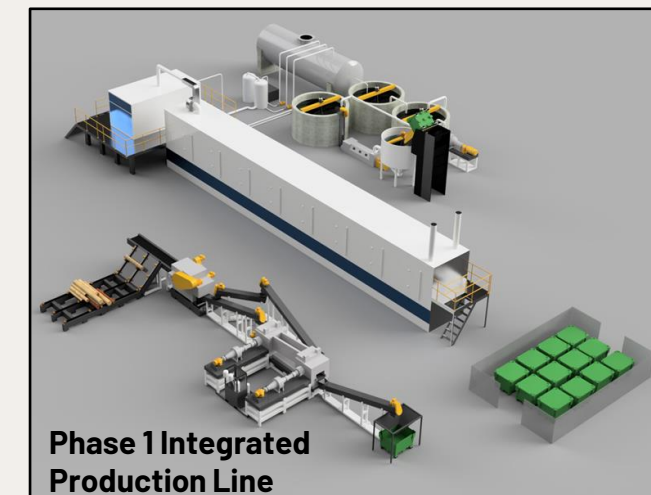
Indicative Project Milestones

- | | Anticipated Timing |
|------------------------|--------------------|
| 1. Project Feasibility | Oct 24 – Apr 25 |
| 2. Project Execution | Late FY25 |
| 3. Operation Phase 1 | FY26 |

Structure

- Thanh Dung and Papyrus will establish a joint venture entity that will own and operate the plant
- Papyrus will sell the production equipment to the joint venture and source the initial offtake agreements
- Thanh Dung will provide plantation waste supply, manage local regulations and requirements for the project

Note: * Production capacity relates to the equipment capacity and does not guarantee revenue for the project or demand for the products. The timing of the Project Milestones are indicative only and may be subject to change. See slide 18 for additional detail.



FY24 CONSOLIDATED FINANCIAL SUMMARY

Income Statement (\$A)		
	2024	2023
Income	672,958	97,630
Share of JV profit/(loss)	344,698	(362,386)
Operating Expenses	(1,661,716)	(1,238,842)
Net Profit/(Loss)	(644,060)	(1,503,598)

Balance Sheet (\$A)		
	2024	2023
Assets		
Cash and cash equivalents	366,971	425,003
Receivables	1,227,386	1,565,138
Property Plant & Equipment	4,873	2,280
Investment (using Equity Method)	1,112,694	689,856
Total Assets	2,721,924	2,682,277
Liabilities		
Trade and other payables	584,888	201,791
Total Liabilities	584,888	201,791
Net Assets	2,137,036	2,480,486

Source: [Papyrus Australia 2024 Annual Report](#)



AUSTRALIA Papyrus LTD

Transformation for a Sustainable Future

Papyrus Australia Limited (ASX:PPY)

Shareholder Presentation November 2024

For more information please contact:

Daniel Schmidt

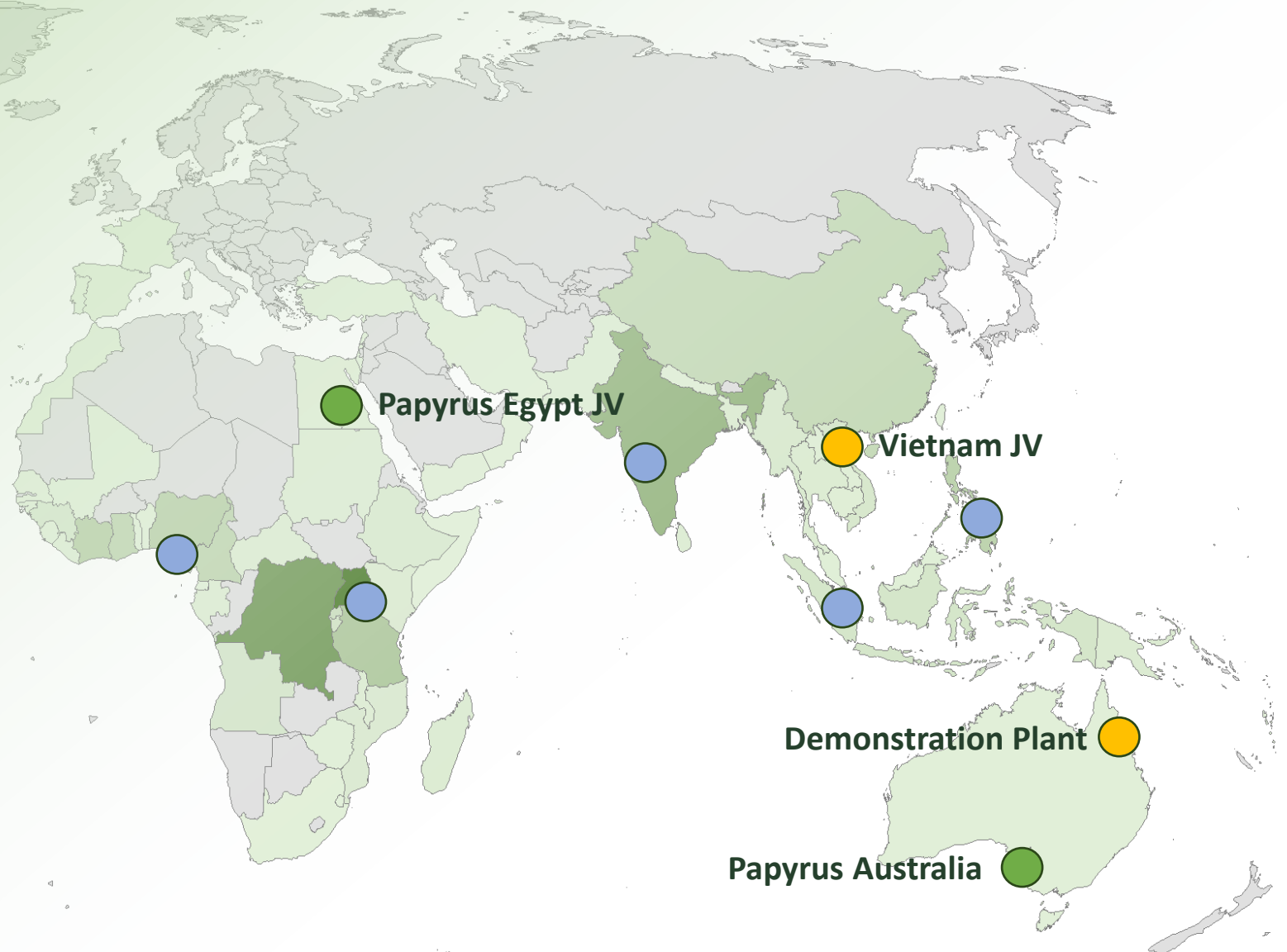
Chief Operating Officer

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This presentation has been approved for release by the board of Papyrus Australia.



World Banana and Plantain Area Harvested
Source: [FAO STATS](#)

Existing Operations 

Current Projects 

Future Project Pipeline 

Reference Material for Projects

Slide 6: Significant Global Supply Opportunity

1. Total world plantation area for banana and plantain measured by the FAO in 2020 was 11.7m Ha (Source: [FAO Stats](#))
2. Average Plantation waste per Ha is 220 tonne per annum (Source: [ScienceDirect](#))
3. 11.7m Ha x 220 tonnes per Ha = 2.576 billion tonnes of waste per year
4. 5 million tonnes of pulp / 25 gram average tray weight = 200 billion trays

Slide 7: Strong Growth Global Packaging Markets

1. Moulded Pulp Packaging (Source: [GM insights molded-pulp-packaging-market](#))
2. Containerboard Packaging (Source: [GM insights containerboard-market](#))
3. Packaging Materials (Source: [GM insights packaging-materials-market](#))
4. Graphs for Equipment, Region and Mould Type (Source: [GM insights molded-pulp-packaging-market](#))

Slide 13: Project 1: Phase 2 Technology Scaling and Commercialisation

Project Cost Breakdown:

1. \$ 450k (64% of total) as quotations received from suppliers and service providers to execute the project
 2. \$ 130k (19% of total) as labour cost based on current contract rates and known award rates
 3. \$ 120k (17% of total) as project contingency
- \$ 700k Total

Slide 14: Project 2: Commercial Demonstration Plant North Queensland

Capital Cost and Production Capacity:

1. The commercial demonstration plant is based around 4 parallel automated thermoforming lines each with a nominal production capacity of up to 365 tonnes
2. Capital costs for the equipment are based on quotations received from suppliers and other reasonable project related costs

Slide 15: Project 3: Commercial Production Plant Vietnam

Capital Cost and Production Capacity:

1. The phase 1 Commercial Production plant in Vietnam is based on 1 rotary production line with capacity up to 3,000 tonnes (as released in ASX Announcement dated 30 October 2024: Terms Sheet signed for Papyrus Australia Patent Pending Phase 2 Technology Commercialisation and Deployment in Vietnam)
2. The future project scale is the opportunity the site has for expansion when utilising the plantation waste from all 13,000 Ha of banana plantations available through Thanh Dung Co.
3. Capital costs are based on quotations received from suppliers and other reasonable project related costs