



Focus on blockchain

Blockchain – what's the big deal?

Ian Jenson and Emmy Li

# Focus on blockchain

1. Why is blockchain important?
2. How does blockchain work?
3. How is blockchain being used?

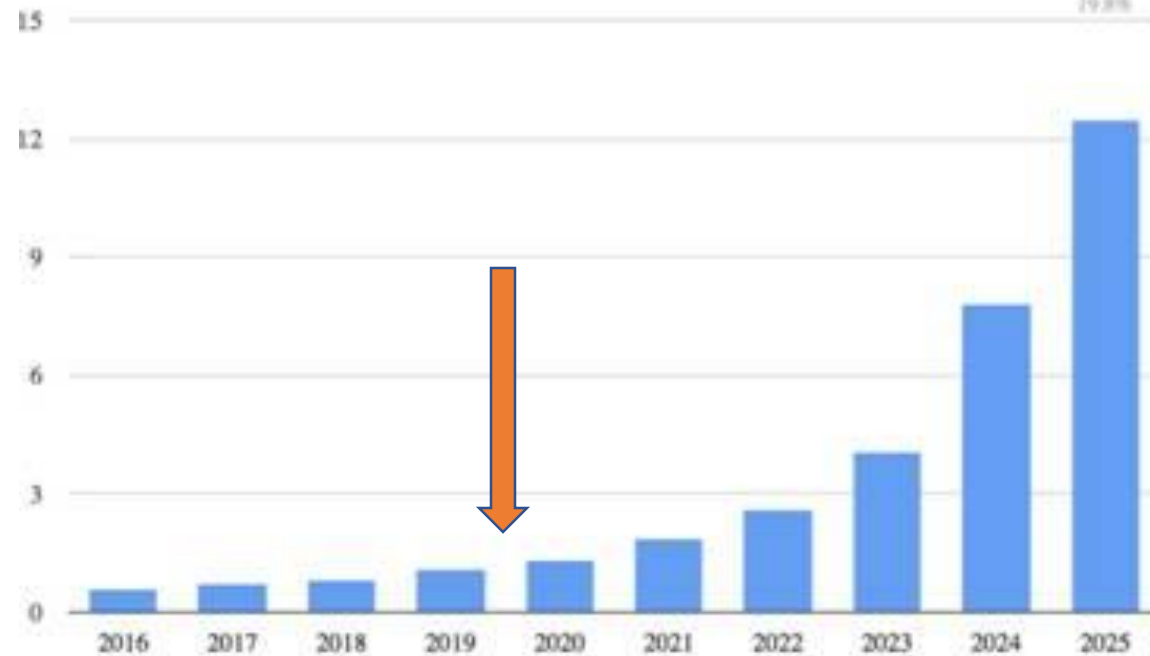
## 1. Why is blockchain important?

- 1.1 “Everyone” is using it
- 1.2 Potential benefits for customers
- 1.3 Potential benefits for suppliers

# 1.1 Everyone is using it

## Blockchain Market Momentum

Global blockchain technology market, 2016 - 2025 (\$ Billion) – CAGR 40%+

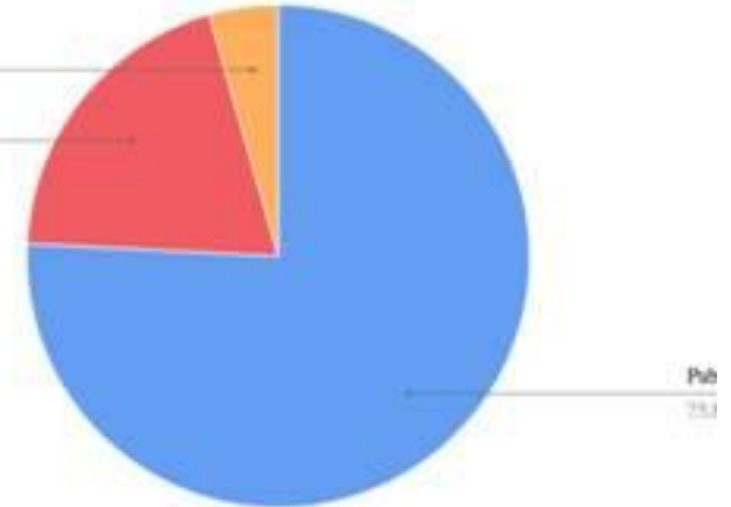


Hybrid

4.4%

Private

19.8%



Global blockchain technology market by type, 2025

## 1.2 Potential benefits for customers

- Can trace right back to the beginning of the chain
- Determine the authenticity of product
- Data about product is transmitted through the system accurately
- Customer may trust the data without knowing the source

## 1.3 Potential benefits for suppliers

- Understand your supply chain better – in both directions
- Find and correct problems in your supply chain
- Open data along supply chain
- Can collect all kinds of data
- Real-time data sharing
- Demonstrate compliance
- Reduce time to payment

## 1. Why is blockchain important?

Because it's becoming more common, and may give benefits to you and your customer

## 2. How does blockchain work?

- 2.1 Explanation
- 2.2 Like the internet
- 2.3 Different colours and flavours

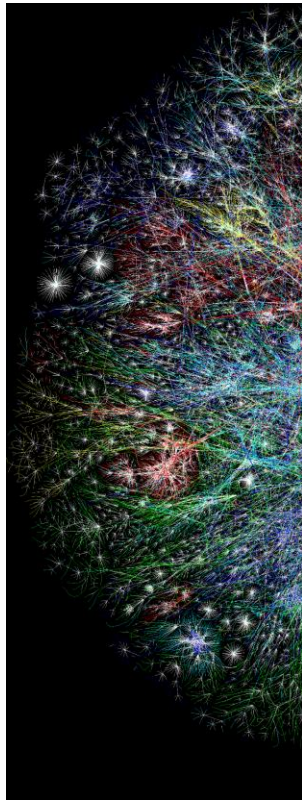
## 2.1 Explanation

- A **blockchain...** is a growing list of [records](#), called *blocks*, that are linked using [cryptography](#). Each block contains a [cryptographic hash](#) of the previous block, a [timestamp](#), and transaction data (generally represented as a [Merkle tree](#)).



## 2.2 Everyone is using it

# The internet



# Google

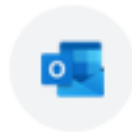
Search Google or type a URL



www.mla.com...



Home



Outlook.com



Home



Concur Soluti...

authentication

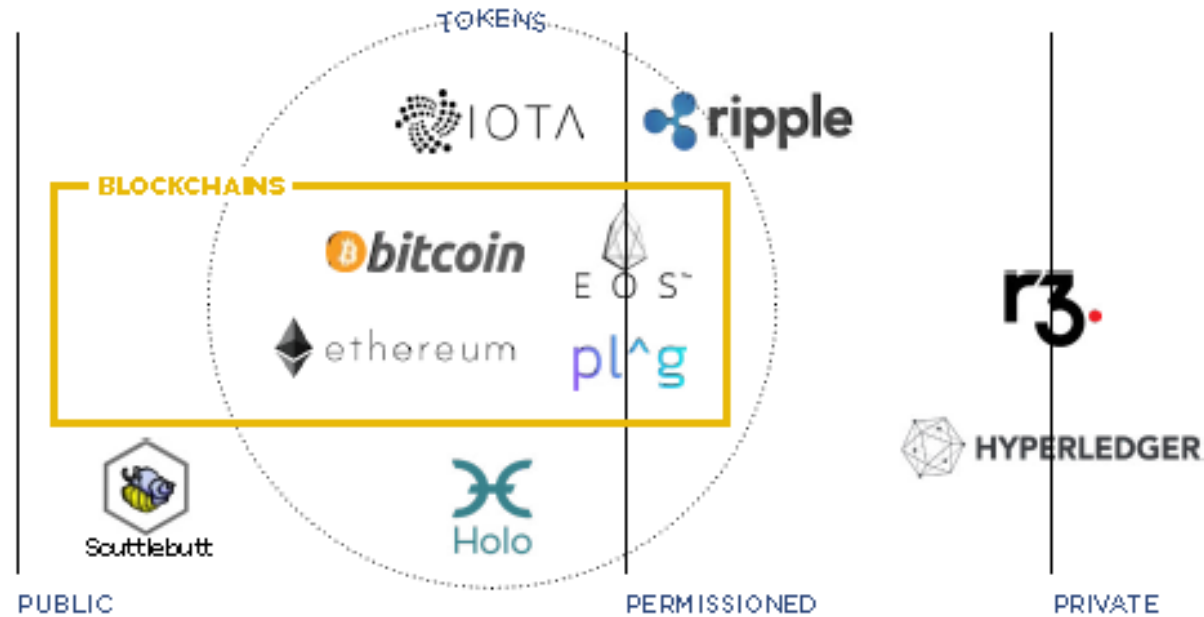
```
hops max, 52 byte packets
ms 3.429 ms
0.126 ms 31.137 ms
32.877 ms 29.850 ms
ms 27.972 ms
614 ms 36.929 ms
29.795 ms 29.758 ms

21.460 ms

28.580 ms 28.623 ms 29.729 ms
```

## 2.3 Different colours and flavours

### 1. How it works



Different degrees of privacy, and security and speed and cost

## 2. How does blockchain work?

Does it matter? Choose the system that works best for you

### 3. How is blockchain being used?

Australian meat to Chinese  
supermarkets



## Securing the Value, Provenance, Safety and Authenticity of Australian Meat and Livestock: Argyle Blockchain





# Argyle Foods Group Introduction

- ✓ **A vertically integrated producer** of quality beef and lamb from grazing and fattening to distribution and marketing of branded retail and food service.
- ✓ At the **forefront of fresh meat packaging in Australia**, providing a unique and complete solution to global retail and food service customers.
- ✓ Argyle consistently aims to deliver the best service and products to all our domestic customers while **rapidly growing our international customer base**.
- ✓ Our processing facilities **secures the highest industry certificates** and utilizes the latest packaging technology to provide packaging, further processing, branded and value-added products for both foodservice and retailer customers.
- ✓ Currently, Argyle is building value adding processing capability with NCMC (Northern Corporative Meat Company) for **China retail market**.



CHILLED RETAIL



PRIME CUTS



FROZEN RETAIL

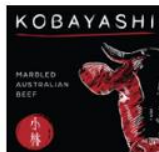


PORTION CUTS

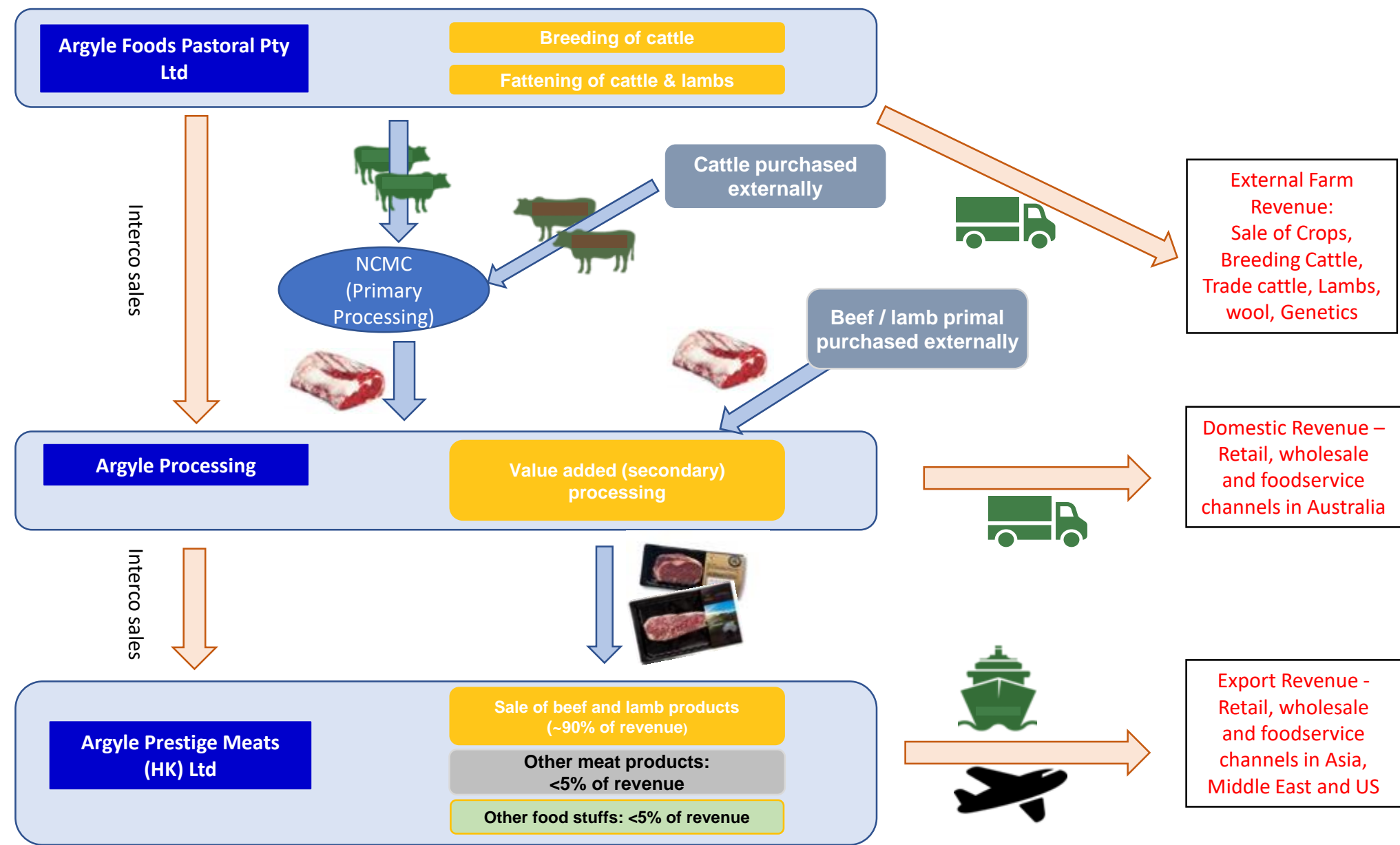


VALUE ADDED

## The Argyle Brands

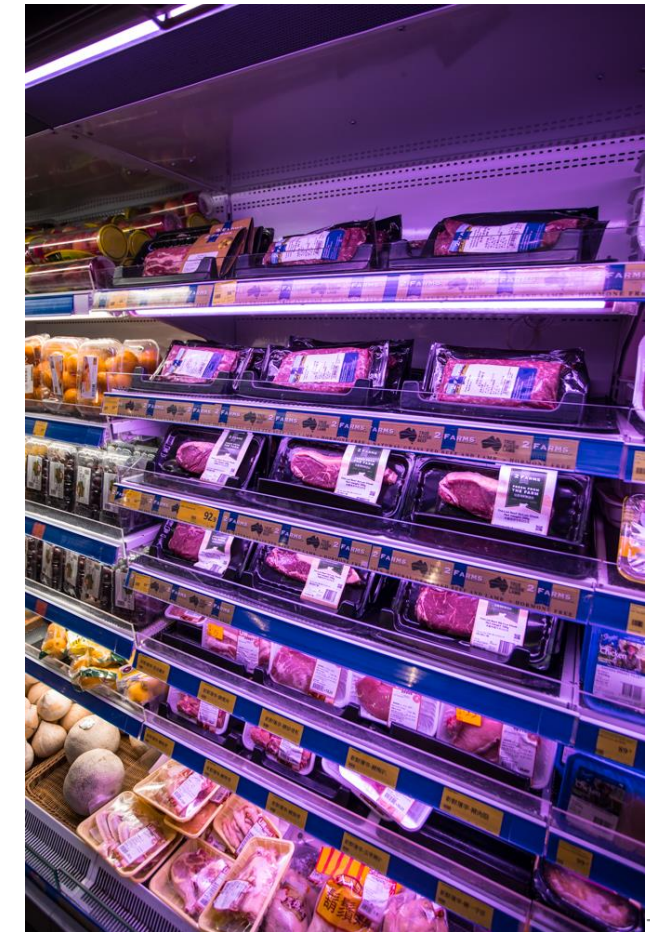


# Argyle Foods Group - Value Chain Overview



# Customer Base – Market Leader in Asia, Mid-East and USA

- Australia: Major supplier of branded value added retail range in Coles & Aldi
- South East Asia – Primary focus on retail and foodservice in Thailand and Singapore
- Argyle supplies the USA (only Certified Humane farm in Australia) plus Korea, Japan and the Middle East
- Argyle supplies 70% of major retailers in Hong Kong and Taiwan



# MLA Support & Co-Funding Innovations



- Argyle/MLA CISP programme – Supporting innovation across livestock production, MSA performance, sustainability, processing, packaging, marketing, consumer insights and technology (Stage 1 & 2).
- P.PSH.1214 - Argyle Case Study for the Development and Launch of Chilled Retail Ready Australian meat in China Market (Stage 1 & 2).



# Argyle/MLA CISP Programme: Launched Carrefour Quality Line (CQL) Range



7 digits with the following meaning.

1	1	08	039
Grower ID	Breeder ID	Slaughter Month	Lot

Breeder ID: 1 = Argyle Pastoral

Grower ID 1: Argyle Pastoral

Slaughter month: 08 (August)

Lot number: 039 (that's we're we are currently up to)

Code: 1108039

# Carrefour and Blockchain

- “French retail giant Carrefour has attributed a recent increase in sales to its use of blockchain tracking.”
- .....We had a positive impact on the chicken versus the non-blockchain chicken”



# Received Letter of Support from Carrefour



Carrefour

家乐福

Taipei

2019/0726



Dear Sir, Madam,

Being a major retailer in Taiwan, Carrefour aims to increase its customers' satisfaction year after year. We recently were awarded "The best service in Taiwan" by the Commercial Times for the 4<sup>th</sup> consecutive year.

Highlighted by the "Act for Food" campaign, Carrefour aims to become one of the world leaders in the food transition for everyone. Our will is also to highlight the work that our producers are doing, promote their expertise and commitment into their production.

Our imported Australian beef plays a key role in that purpose. Sold under the Carrefour Quality Line brand, this Angus beef is part of the main items of Carrefour brand.

To go on with that success, the Blockchain traceability is an obvious asset. Already used by Carrefour in several countries, this technology helps to increase customers' confidence in our products and would bring additional communication support on Argyle's meat good practices (No antibiotic, no growth promoter...).

Taiwan being really sensitive regarding food traceability (existing Taiwan Agriculture and Food traceability System – TAFT; ongoing project of governmental Blockchain for local fruits and vegetables), such a project would support Argyle's meat Australian beef growth in our stores.

Thank you very much for your understanding and support.

Kind regards,

Félicien Bullot

Carrefour Quality Line Manager – Carrefour Taiwan



## P.PSH.1214 - Argyle Case Study for the Development and Launch of Chilled Retail Ready Australian Meat in China Market (Stage 1 & 2)

- Argyle developed a frozen-thawed supply chain model to be able to supply retail ready product in the China market.
- Product is portion packed chilled then shipped, cleared and delivered to stores frozen then sold chilled with 21 days shelf, which means zero risk of mark down and shrinkage to retailers technically, reduces logistics costs by 80%.
- Last year, Argyle launched this frozen thawed model under contracted supply agreements with Walmart China.



Frozen



Chilled

FROZEN BEEF  
THAWED ON SHELF



- ✓ REDUCES LOGISTICS COSTS
- ✓ REDUCES SALE PRICE TO CUSTOMER

BEEF THAWED  
READY FOR SALE



- ✓ INCREASES SHELF LIFE SUBSTANTIALLY
- ✓ CO-FUNDED BY THE MLA – 2019/20 \$1M AUD PLUS



# Walmart China and Blockchain



- In 2015, China revised its Food Safety Regulation and emphasizes to establish a food safety traceability system under the technical basis of digital traceability system.
- On June 25<sup>th</sup>, 2019, Wal-Mart China blockchain digital traceability technology was launched. First 23 products that have been pilot trialed and entered in Walmart block chain traceability platform.
- Consumers can scan the QR code on the product to view the traceable information of the product, supply source, the geographic location of product origin, logistics and transportation time, product inspection report, and detailed product description of supplier.
- By the end of 2020, Wal-Mart's overall traceable fresh meat retail ready products will account for 50% of the total packaged fresh meat sales.



# Walmart China and Blockchain

Currently blockchain is in pilot phase (led by Walmart compliance team), we are reviewing the platform design, functions, mode, cost, etc. for full scale launch potentially in 2020.

## Features:

- Splash Screen
- QR Code Scanner
- Scan Result

## Scope of Walmart traceability platform:

- Farm point: Farm name, responsible person, arm code and address, ear code, variety of live cattle, feedstuff
- Factory: Food safety test results or report on some key items, such as testing for antibiotics or illegal drugs, Gov animal inspection and quarantine certification
- Transport points



# Argyle Blockchain Value Proposition

## Benefits Block Chain technology brings to Australian Red Meat Industry:

- Secure the Value, Provenance, Safety and Authenticity of Australian Meat and Livestock

## Benefits Block Chain technology brings to Argyle's business:

- Provide the highest level of system data integrity and traceability
- Provide true paddock-to-plate provenance authenticity and integrity
- Identify pain-points and streamline supply chain
- Touchpoints and enable “real-time” data sharing
- Set an industry best-practice standard / new levels of trust between all in the supply chain
- Easier to implement value chain financing solutions

# Argyle Paddock-to-Plate Blockchain Data Points through Supply Chain



## Argyle Meats Product Traceability

Argyle Meats uses a blockchain based traceability solution to capture asset data points as they move through the supply chain

Data points are very visible for each asset and their signature can be used to verify data point immutability



Production



Processing



Logistics



Distribution



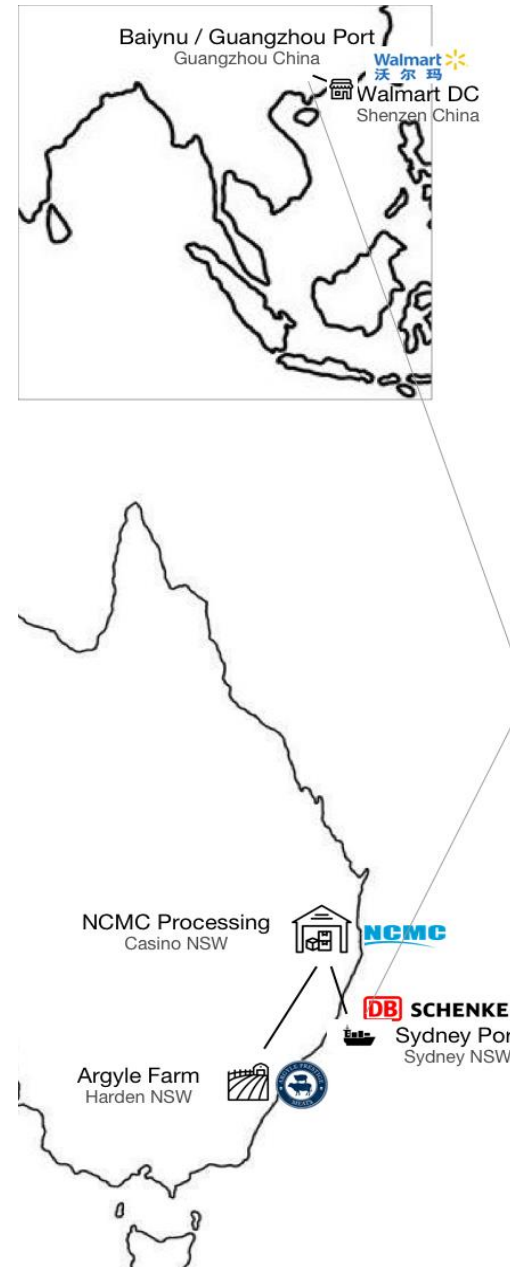
Retailer



Consumer

# Blockchain Project Scope & Prototype Submission

- ✓ Spent \$50,000 developing the prototype
- ✓ All stages of product touchpoint and consumer relevance is integrated
- ✓ Each datapoint secured to the blockchain in real-time
- ✓ Simple QR code initiated “viewing” of information
- ✓ Setting the Australian standard for securing provenance



**Argyle Meats**  
paddock-to-plate quality assurance

Your product About

**Scotch Fillet**  
product #1546781

**PRODUCT**  
Description: Scotch Fillet  
Packing Date: 24/05/2019, 13:59:00  
Pack Weight: 0.2 kg  
Batch No.: 1546781  
Manufacturer: Argyle Prestige Meats  
Country of Origin: Australia

**FARM**  
Farm Owner: Argyle Prestige Meats  
Farm PIC Code: 7412ARG1  
Location: Casino, NSW, Australia

**LIVESTOCK**  
Breed: Black Angus  
Age: 32 Months  
Feed: Grass  
NLIS Identifier: 1642693521

**Provenance Trail**

- Cow Registered**  
25/10/2019, 08:47:00  
Argyle Foods Farm, Casino, NSW, Australia  
TxHash: 4583EE72D0F9C51EC623  
Signature: 39D9F413E1D43C24BC8EFB108E
- Transported to Processor**  
26/05/2019, 23:15:00  
NCMC Processing, Casino, NSW, Australia  
TxHash: 1F8F3B87B18F412217CB3BA11  
Signature: 8B2BF362638F928CB179E53
- Processing and Packaging**  
27/05/2019, 23:59:00  
NCMC Processing, Casino, NSW, Australia  
TxHash: DA84E5104EC02982515127A  
Signature: 533ACF7F70BD95839F312
- Transported to Retailer**  
07/06/2019, 17:55:00  
Shanghai, China  
TxHash: C9DF9C3EBE6A0DC301EE7C  
Signature: A4B60F40E3CDE74D8F0E87D5



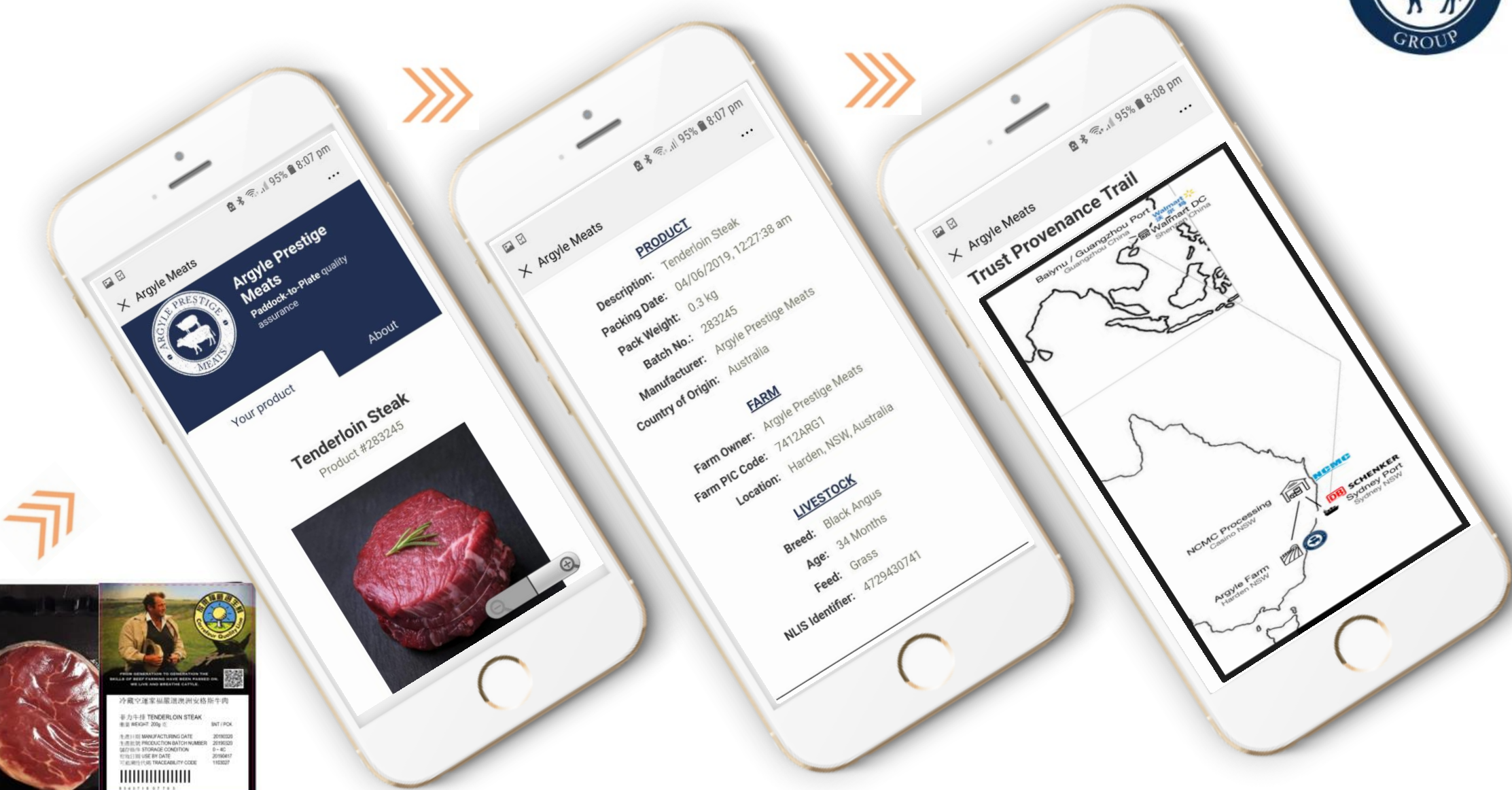
## Argyle Meats Product Traceability

Argyle Meats uses a blockchain based traceability solution to capture asset data points as they move through the supply chain

Data points are very visible for each asset and their signature can be used to verify data point immutability



# Argyle Blockchain Prototype Scan Result:



# Next Steps: Implementation Plan & Budget

- Implementation Plan:**

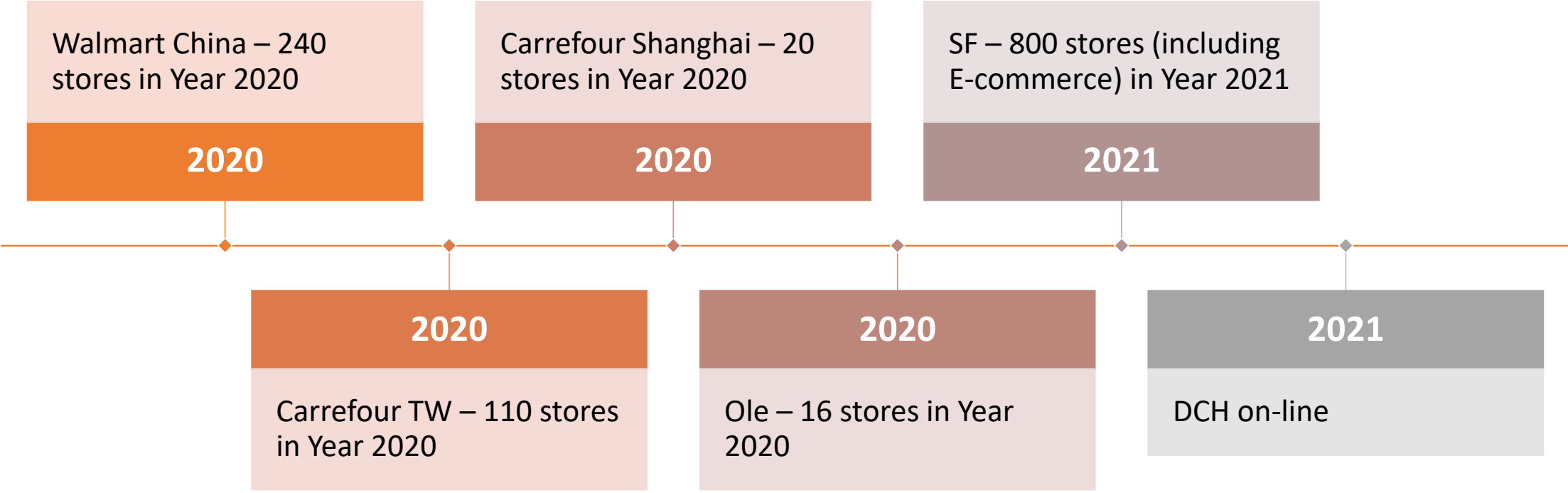
<b>TASK</b>	<b>Months</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
Datapoint Collection and Integration											
Configuration of Trust Provenance											
Consumer Application build out											
Implementation and training across the supply chain											
Crypto coin ready and cloud storage ready											
Support and Maintenance											+

- Budget:**

- > \$864,000 to “v1.0”
- > Working solution with consumer facing app
- > Open platform to progressively integrate in additional datapoints
- > Platform for the Australian red Meat industry



# Timeline: Argyle Blockchain Launch in Overseas Retails



# Argyle Blockchain Collaborators and Customers



National Livestock  
Identification System

