



Innovation Is A Winding Road

Jamila Gordon
CEO & Founder
Lumachain

LUMACHAIN

A person wearing a vibrant, multi-colored sari and a blue headscarf is walking away from the camera down a dirt path. The path is flanked by a rustic fence made of vertical wooden poles and horizontal branches. In the background, there is a traditional hut with a tall, conical thatched roof. The scene is set in a rural village with dry vegetation and trees in the distance. The overall lighting is warm and golden, suggesting late afternoon or early morning.

The village I grew up in

**Food was scarce. My dad would kill a goat once or twice a year,
but as the oldest of 16 kids, I ate last and often got little...**

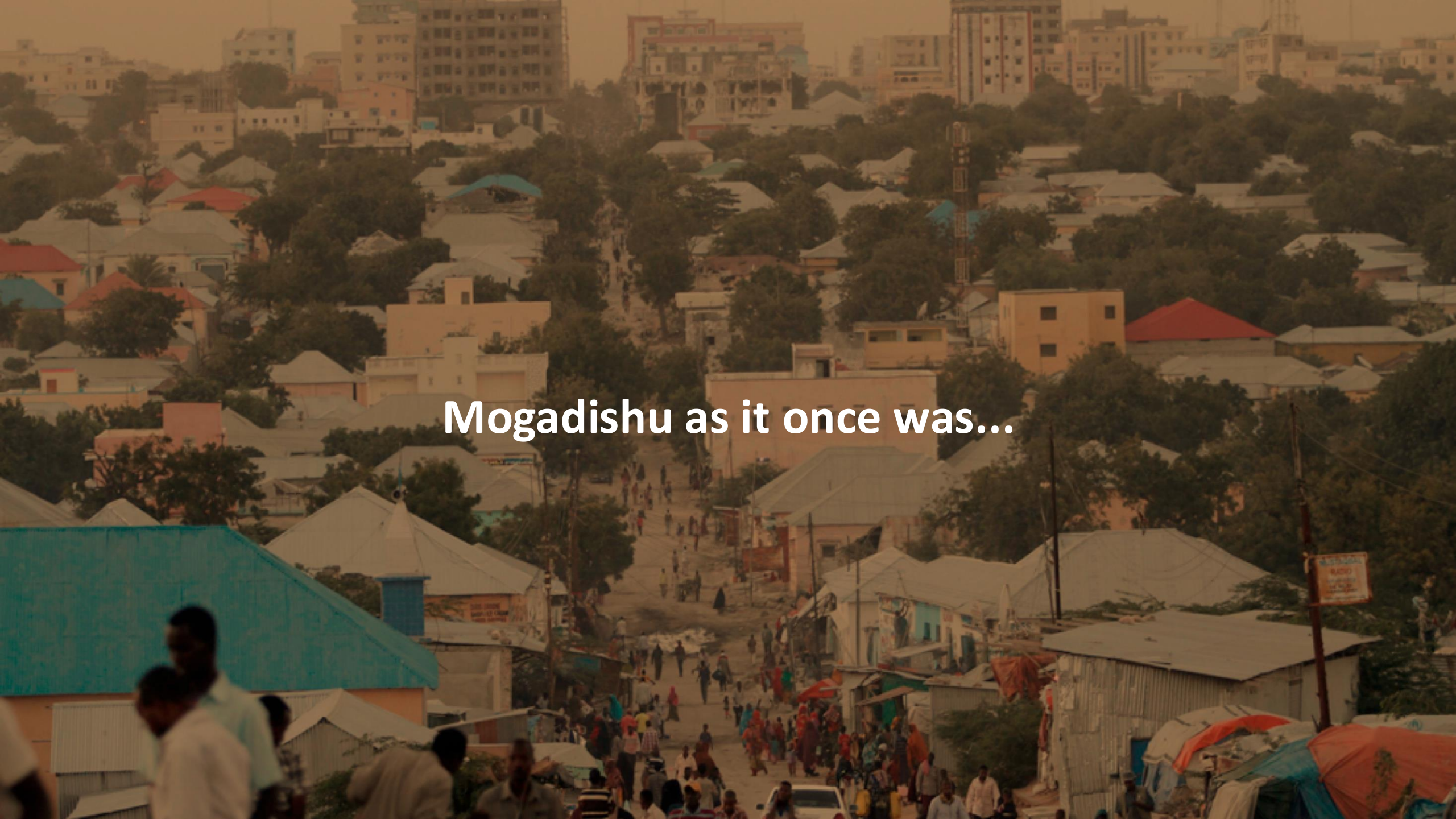


**I had a wonderful dad, a supportive
mum, and a strong sense of belonging
from an early age.**



A woman stands in the center of a vast, arid landscape. She is wearing a long, patterned dress with green, red, and black designs. Her arms are raised, and she is smiling. The ground is dry and dusty, with some sparse, dry vegetation. In the background, there are several small, simple structures, possibly huts or houses, and a larger, more complex building. The overall scene is one of a dry, dusty environment, likely a village affected by drought.

Drought drove us from our village



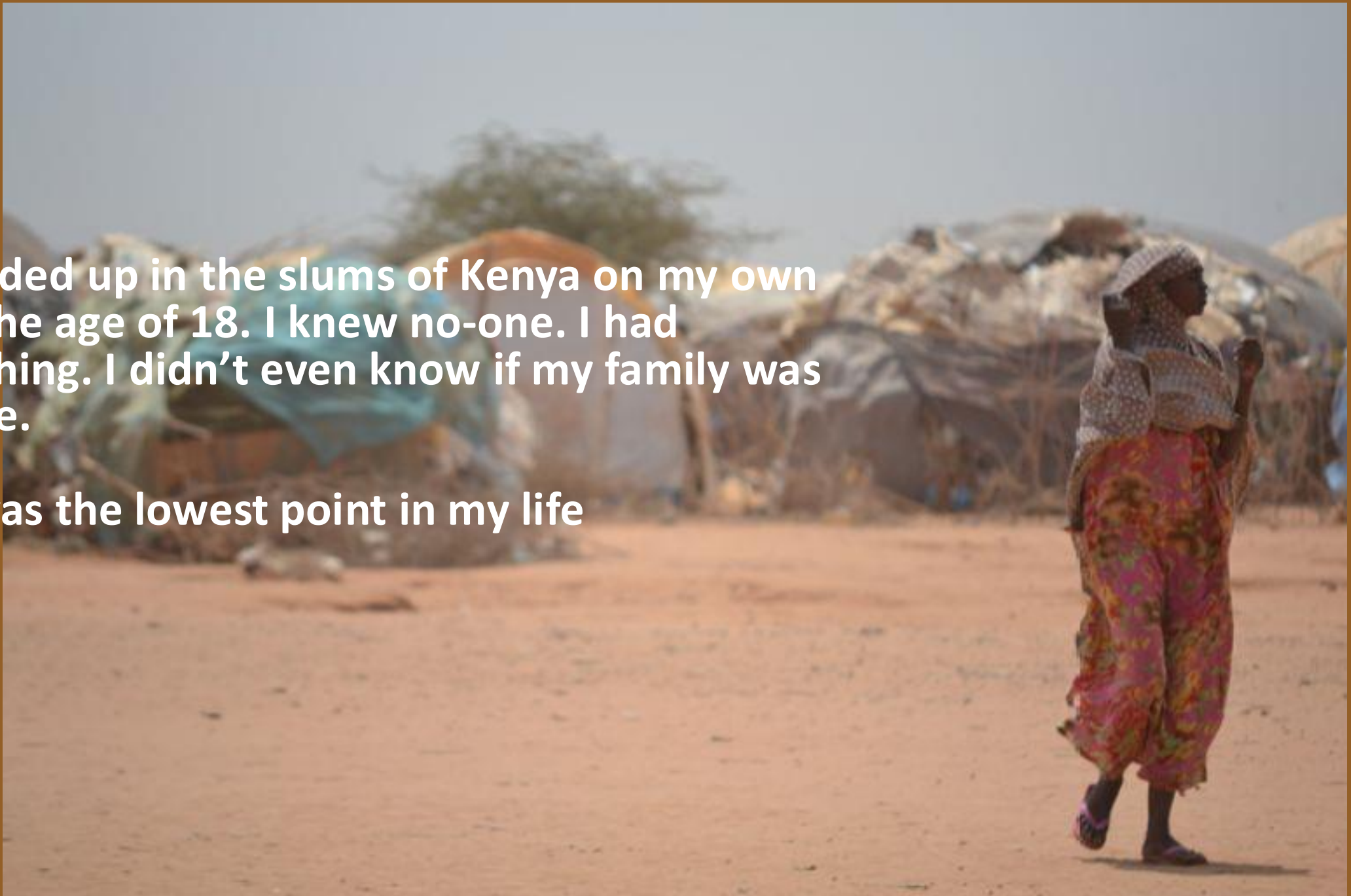
Mogadishu as it once was...

**Somalia descends
into civil war and the change nearly
crushed me**



I ended up in the slums of Kenya on my own at the age of 18. I knew no-one. I had nothing. I didn't even know if my family was alive.

It was the lowest point in my life





My new home...



Apart from having my son, coming to Australia is the single greatest thing that has ever happened to me, and I owe this country a debt of gratitude that I will never be able to repay

**La Trobe took me in
and everyone – the
university staff, the
students and the
town of Bendigo
were wonderful to
me. I felt like I
belonged again**



Around the world & back again

After university



Deloitte.



Then Europe



ABN·AMRO

...and back home

QANTAS

 CIMIC

Questacon The National Science
and Technology Centre

And now

LUIMACHAIN



Lumachain & JBS Australia

“Lumachain worked with JBS Australia to bring both Computer Vision AI to solve the food safety issue.”

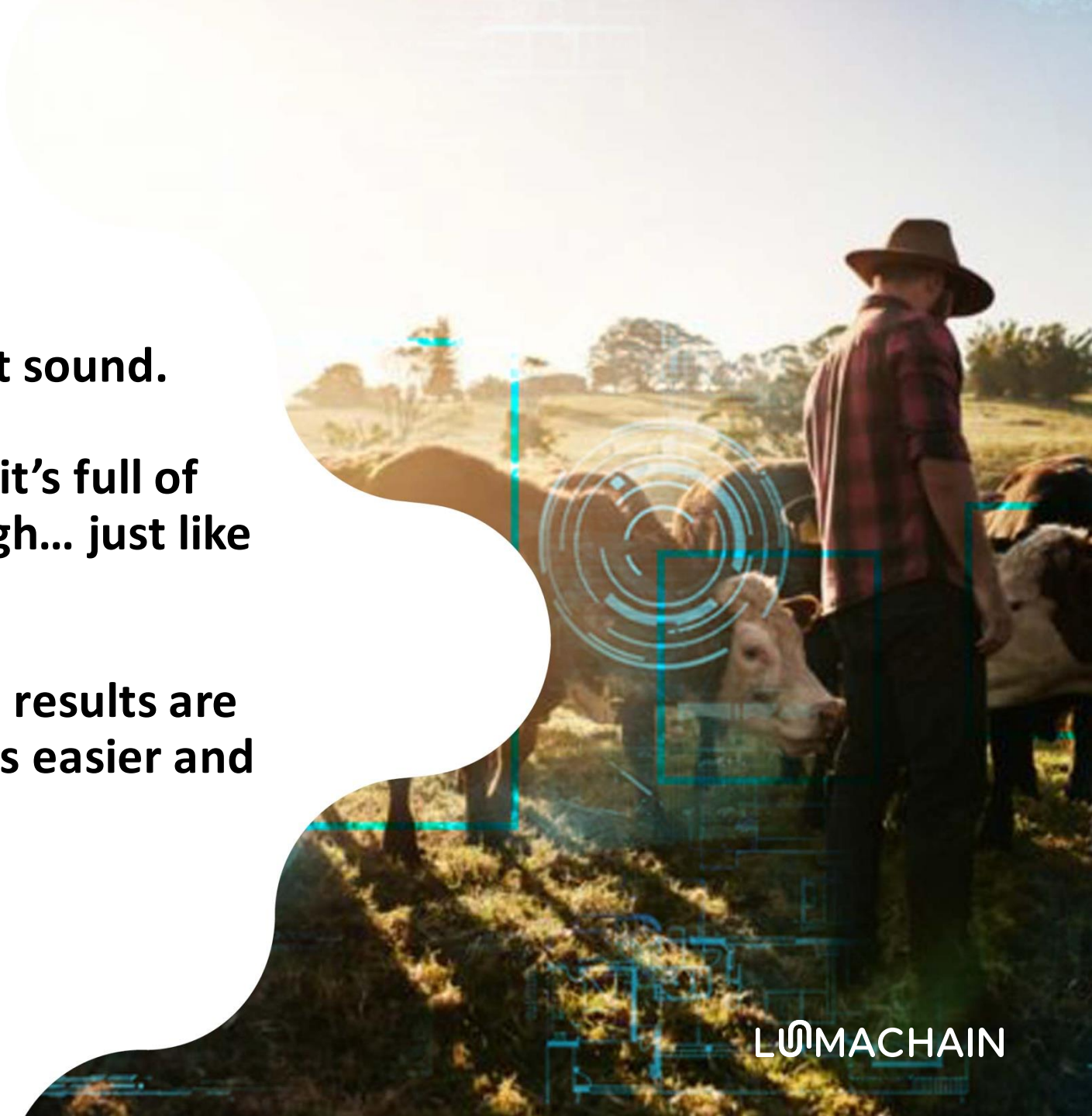
Satya Nadella, Global CEO Microsoft



I wish I could say that everything was as straightforward as Satya's quote makes it sound.

But Innovation is never a straight line — it's full of twists, mistakes, and challenges. It's tough... just like the meat industry!

So yes, innovation is challenging, but the results are worth it, and the good news is that it gets easier and easier over time.



An example of the
innovation journey:

AI-based Animal Welfare Monitoring

The problems with Human-Based Animal Welfare Monitoring

- Sample-based, only covers a few minutes an hour
- Misses animal welfare issues
- People are get bored & distracted
- People are subjective & inconsistent
- Not real-time - reporting happens after the fact
- Takes people away from other tasks
- Expensive

Why AI is a better solution

- 100% coverage, 24 x 7 – misses nothing
- Objective and consistent
- Great at repetitive, ‘boring’ tasks
- Alerts in real-time and real-time training employees
- Humans only get involved if there is a potential breach
- Frees up people to do other tasks
- Secure
- Inexpensive



But going from idea to a complete solution was a tough process ...

- How to get key customers to trust us?
- Ensuring the system was secure
- How to train the AI to identify potential willful egregious acts... when there was no data?

How the AI Platform Works

- Cameras and AI server installed at the establishment.
- AI monitors Animal Handling 24 x 7, 100% coverage (inc. at night).
- AI Initially trained on >7,000 hours of footage review by PAACO-trained reviewers, validated by establishment's PAACO-Certified Auditor with >10 years' experience.
- If AI detects a Potential Occurrence/Breach, it immediately alerts the establishment's animal welfare expert, who makes a determination & takes action.
- Feedback loop continuously improves AI accuracy.
- **Secure**
 - Video does not leave the site and is owned and controlled by the establishment.
 - Video held for short period of time, then deleted.
 - Strict permission-based access.

What the AI Platform Measures

- Slips & Falls
- Electric Prod Use
- Effective Stunning
- Potential Willful & Egregious Acts
- Pen Density
- Animal Count (cattle & smallstock)
- Bleed Rail Sensibility (coming soon)

AI Counts Cattle, Monitors Slips & Falls



AI Monitors for Potential Occurrences of Willful Abuse



AI Monitors other employee/animal interactions



AI Monitors Pen Density





**Real-time alerts & reporting
allows supervisors to take
immediate action.**



A key to effective innovation:
Get buy-in from all key stakeholders,
and de-risk the process for them.

Colorado State University Peer Reviewed Research Paper

Research led by
Dr. Lily Edwards-Callaway

(Protégé of Professor Temple Grandin)

Published May 2025



Link to CSU research paper

Steering Committee Members

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The Meat Institute

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Dairy Beef and Animal Welfare Manager
Greenham & Sons Pty Ltd

Bill Rupp

Chairman
Sustainable Beef (50% owned by Walmart)

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Research Outcomes

**Lumachain AI's accuracy is similar to a
certified animal welfare auditor
with 10 years' experience.**





**Lower cost than current
in-house or third-party video audits.**

Proven Solution:

- **Platform is live in plants across**
- **Australia, the UK, Europe & US**

Lumachain products cover:

Reducing waste
& increasing
yield



Safety
(people & food)



Quality



Efficiency (labour
& OEE)

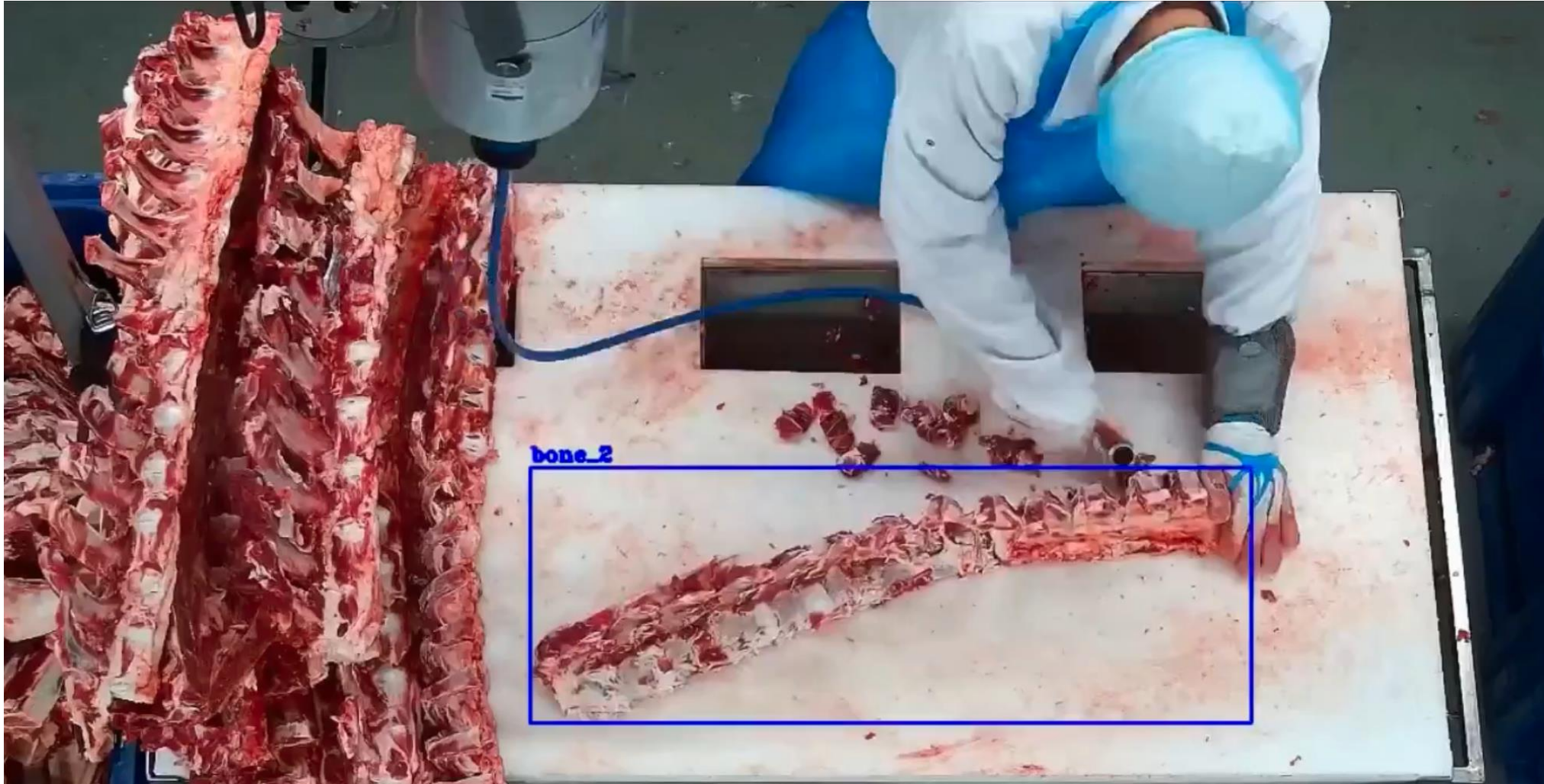


Traceability
(supply chain
& ESG)



Yield Monitoring

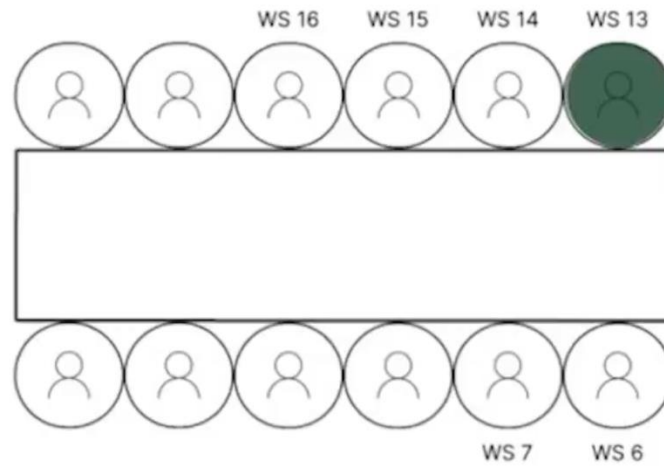
**AI alerts supervisors if too much meat
is being left on the bone at a given station,
or if employees are working too fast or too slow.**



Rump: WS 13

Efficiency ● Optimal ● Too slow ● Too fast
 Efficiency (Idle Only) ● Optimal ● Slow ● Too slow
 Sharpening ● Yes ● No

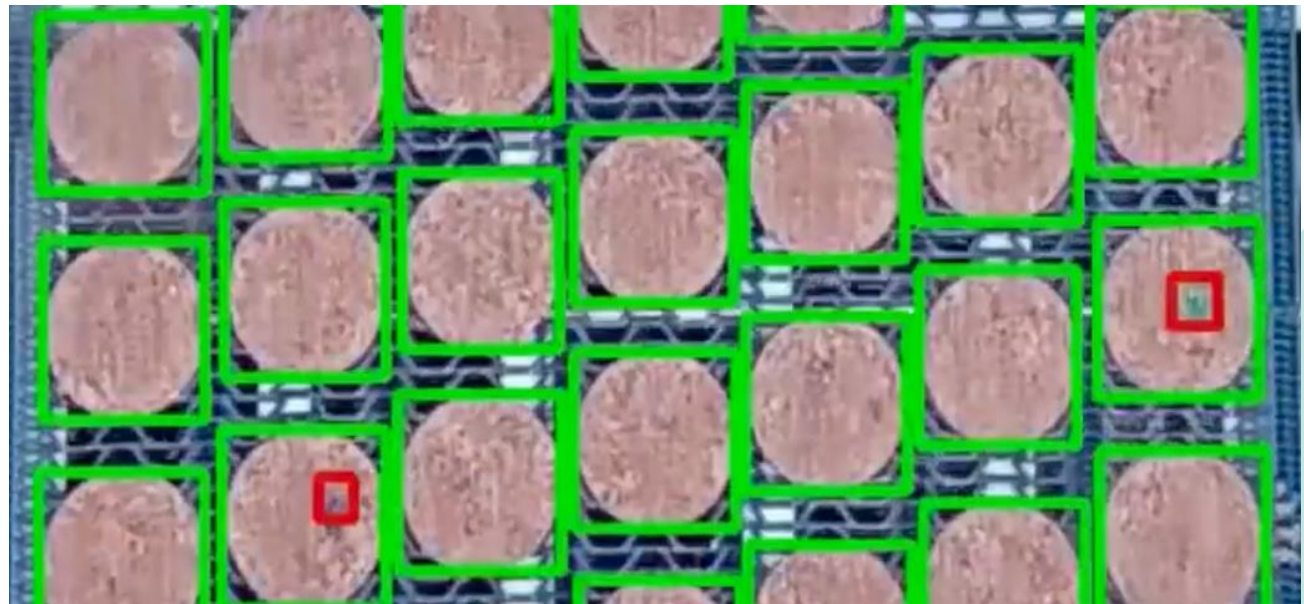
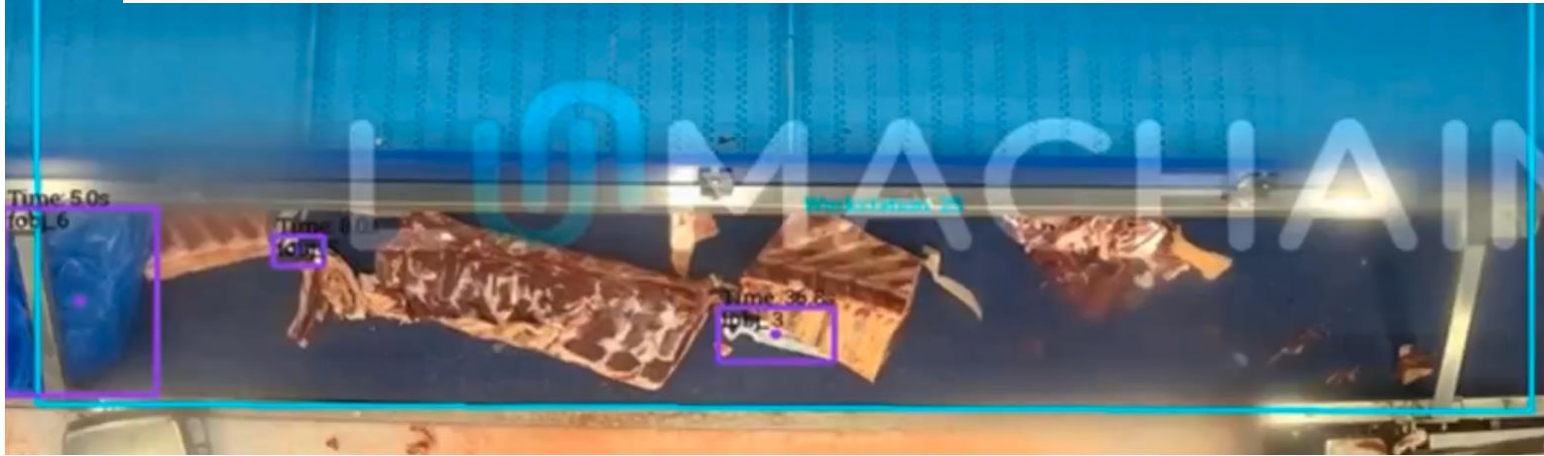
	Job AVG	WS AVG	Pcs Assessed	
Total Time (sec)	64.55	61.44	288	34.72 % 55.90 % 9.38 %
Contact Time (sec)	49.29	46.83	288	8.68 % 91.32 %
Idle Time (sec)	15.26	14.60	288	53.47 % 24.65 % 21.88 %
Sharpening Compliance (%)	63.78	54.51	288	54.51 % 45.49 %





AI-based **Foreign Object Detection** for Primary & Secondary Processing Plants

Foreign Object Detection





Supply Chain Platform

**Provides End-to-End Visibility From
Farm to Retailer**

Search Refrigeration Types

Search Animal Types

Search Production Categories

Order Filters

Search Containers

Search Buyer Order #

Search Suppliers

Search

Map

Satellite

Product by SKU

Sort By: Weight

Beef FA CHUCK ROLL C Grass	170,385 kg	9,259 Cartons	Min Shelf Life at ETA 27.0 days
170.39K kg			
PR KNUCKLE IW/VAC	144,588 kg	7,555 Cartons	Min Shelf Life at ETA 28.7 days

Weight on Arrival

LBKG

Total Weight1.83M kg

At Risk0 kg

Expired0 kg

Alerts0 Vessels

Journey Stage

← Transoceanic Port →

Upcoming

Tomorrow - Apr 11, 2025

OLIVIA MAERSK

Destination Port: Port of Philadelphia

Weight on Vessel: 164,787 kg

Port ETA: Apr 11, 2025

Min Shelf Life at Arrival: N/A

This Week - Apr 12, 2025 -> Apr 13, 2025

CMA CGM BLUE

Destination Port: Port of Philadelphia

Weight on Vessel: 99.696 ka



Real-time visibility of volumes, SKU's & ETA's

Alerts for:

- Delayed Shipments**
- Temperature Abuse**
- Predicted Low Shelf Life on Arrival**



Thank you, AMPC!

**Processors around the world envy the way
AMPC helps Australia innovate and stay
ahead.**



The future looks bright

... and Lumachain is here to help!