

A large, glowing wireframe palm oil drop is the central focus on the left side of the image. It is composed of a network of white lines forming a mesh, with bright yellow and green highlights along its edges and within its structure. A smaller, similar wireframe drop is positioned below and to the left of the larger one. The background is a dark green gradient with scattered white and yellow particles, suggesting a digital or futuristic theme.

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# Technological Innovations to Future-proof the Palm Oil Industry

Wednesday, 13 November 2024  
9:45 AM to 10:45 AM (GMT+7)  
Ballroom 2, Level 6, Amari Bangkok



**Mohammad Fadhli Jamaluddin**  
Chief Executive Officer  
Geospatial AI Sdn Bhd

**Session Moderator**





**Harry Brock**  
Chief Executive Officer  
Univanich Palm Oil Public Company Ltd

**Advancing Oil Palm Innovation  
for Future Generations  
(The Thailand Perspective)**



# Thailand Palm Oil Industry 'A Growing Success Story'



1.



Thailand Palm Oil Production  
> 90% FFB from 'INDEPENDENT' Smallholders.

2.



Effective Government Policy to encourage  
Agricultural Enterprise.

3.



Univanich established 40 year breeding programme,  
Genomics and Tissue Culture Facility, to provide highly  
suitable planting material to perform in the drier conditions.

4.



Univanich supplies seed for both domestic and export of  
planting material, and operates large nurseries to supply  
Thailand smallholders with very suitable planting material.



# Thailand Maximizing Opportunities along the Value Chain

Thailand Renewable Energy target from 20% to 50% over next 10 years, Biomass is a significant player.

Since 2016, Industrial Department mandated for the inclusion of Biogas systems as part of the wastewater treatment process.

Univanich pioneered methane capture in Thailand from 2007.



**Palm Kernel Shell**  
100% of Thailand Shell production used for Domestic Biomass Energy Production



**EFB**  
75% of Thailand EFB production used for Domestic Biomass Energy Production



**Fibre**  
20% of Thailand Fibre production used for Domestic Biomass Energy Production



In 2023 Univanich generated 46 million KWh of electricity from Biogas. 75% of this was supplied to the local grid.



# Advancing Oil Palm in Thailand: The Key Drivers

1. Expansion of the Palm Oil industry is through diversified independent smallholder growth, supporting a large population of farming families. Thailand has and continues to demonstrate the smallholder model is very effective and progressive.

2. A well established breeding programme that offers planting material that is drought tolerant, with high yielding performance. Becoming more relevant with Climate Change.

3. A strong drive to add value from byproduct utilisation, and being a major Biomass feedstock supplier, and renewable energy supplier from methane capture.



4. Government support for the Palm Oil Industry



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The Key to a Sustainable Future:  
'Sharing Responsibility & Sharing the Value'



Thank you



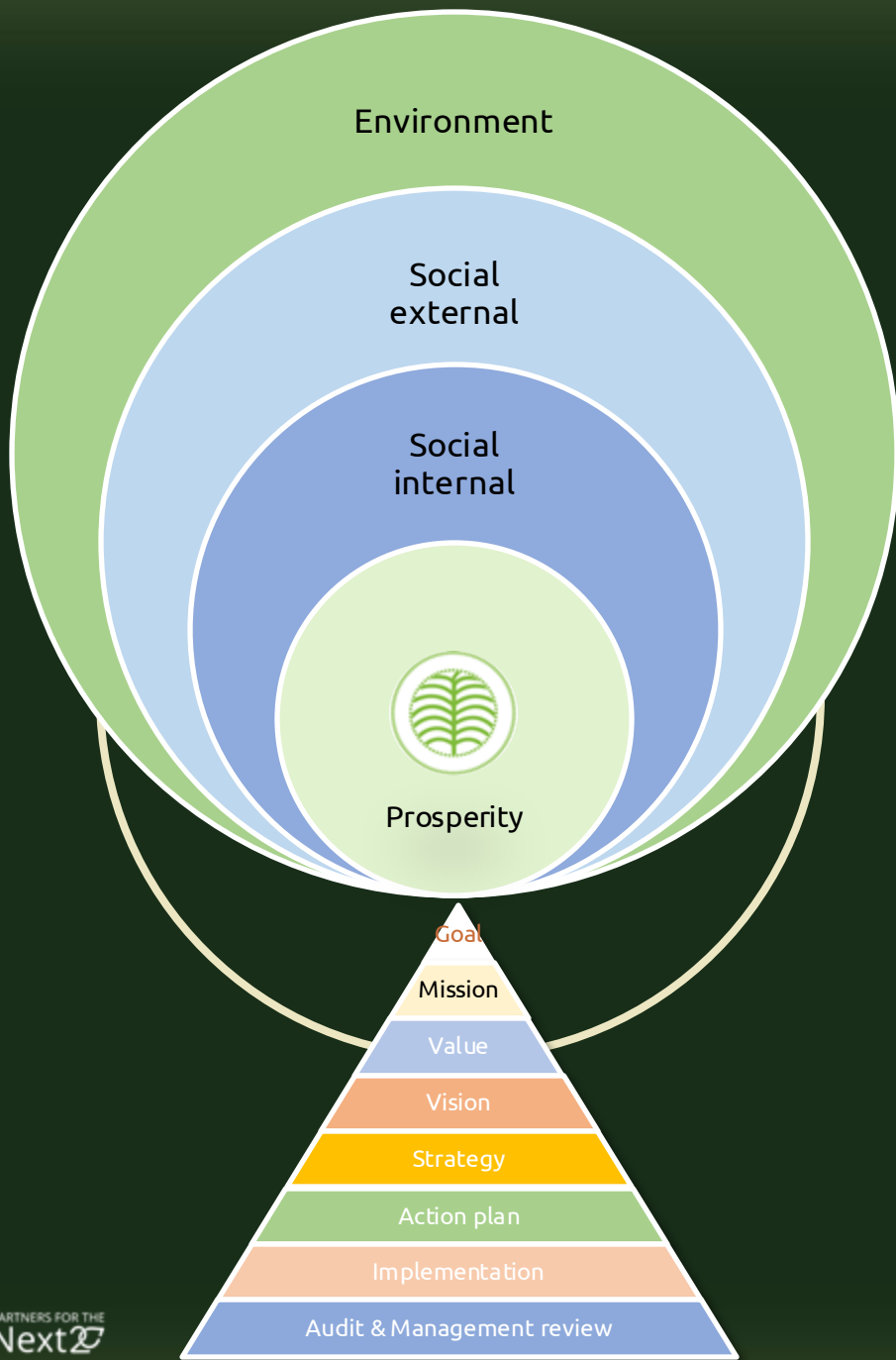


**Florent Robert**  
Group Head of ESG  
Siat Group

## Renewable Energy for Sustainable Agriculture





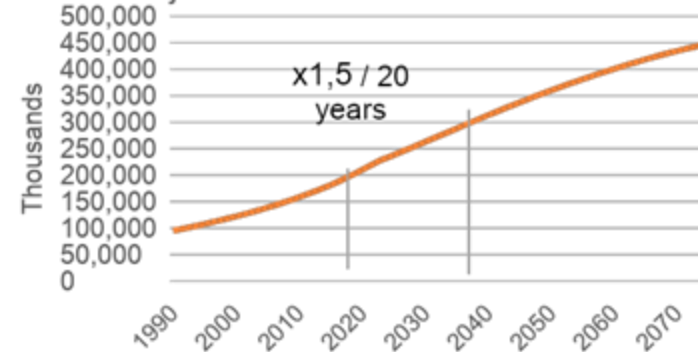


$$CO_2 = \frac{CO_2}{E} * \frac{E}{GDP} * \frac{GDP}{POP} * POP$$

Energy, Prosperity, Population / Kaya's identity

Nigeria - Probabilistic Population

Median Projections



**POP**

Palm oil key for food security of population

**E**

Difficulties to access grid electricity

**GDP**

Save cost of fossil fuel (including transport)

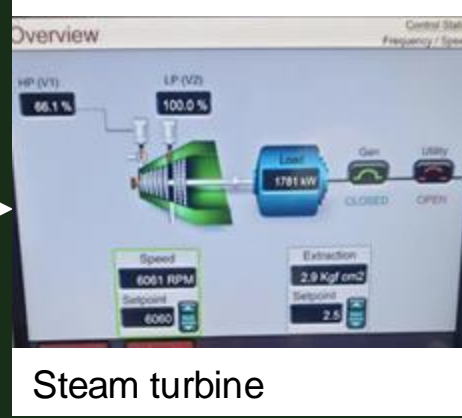
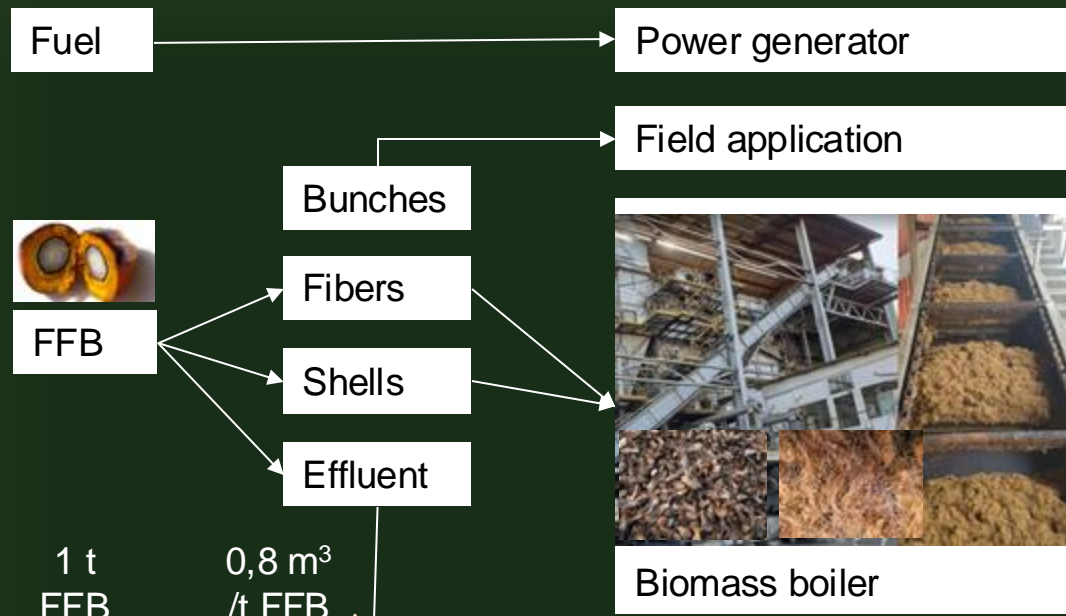
**CO<sub>2</sub>**

Recycle waste  
Reduce emission

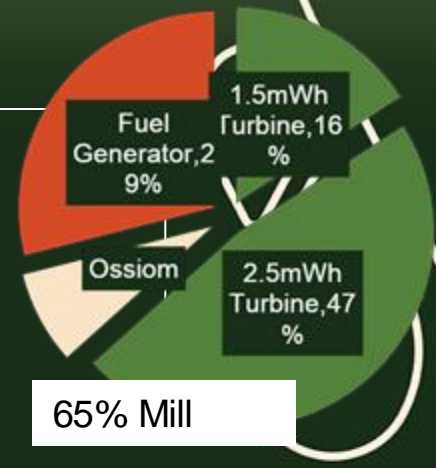
Renewable energy as a solution for remote areas

Cogeneration & Biomethanation





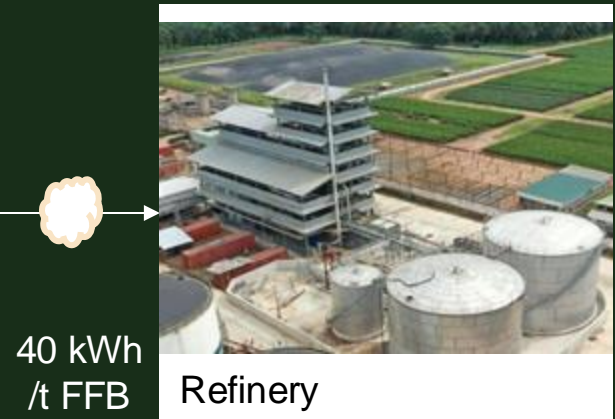
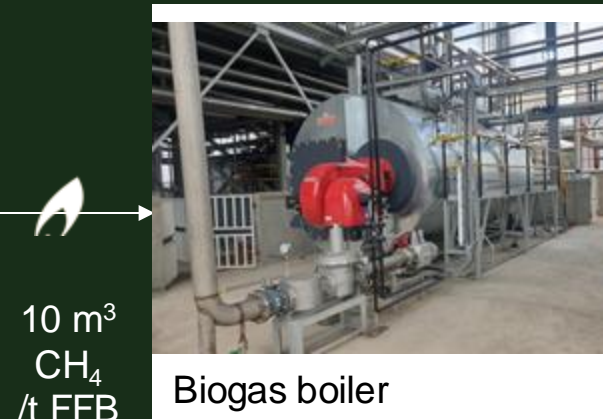
29%



63%

- 65% Mill
- 5% Office
- 10% Other
- 20% Housing

90 kWh /t FFB



10 m<sup>3</sup> CH<sub>4</sub> /t FFB

40 kWh /t FFB

13l of fuel saved per t FFB

0 grid electricity utilization

Treated effluent - Irrigation

Stearin

Marine generator



## Provide House lights



Free electricity for  
1,700 houses  
and communities

## Reduce Fossil fuel use & cost

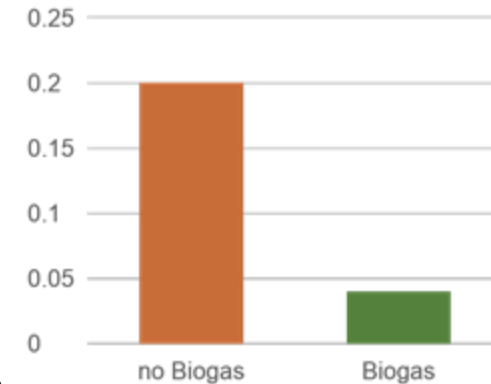


	Presco Projects	
	Cogeneration	Biogas plant
Investment €	5,370,000	4,587,000
Savings Liter's fuel / year	8,639,000	1,600,000
Saving € / year	6,480,000	1,200,000
Pay back	< 1 year	4 years

## Reduce GHG emissions



tCO<sub>2</sub>e / t FFB  
Biogas



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Thank you

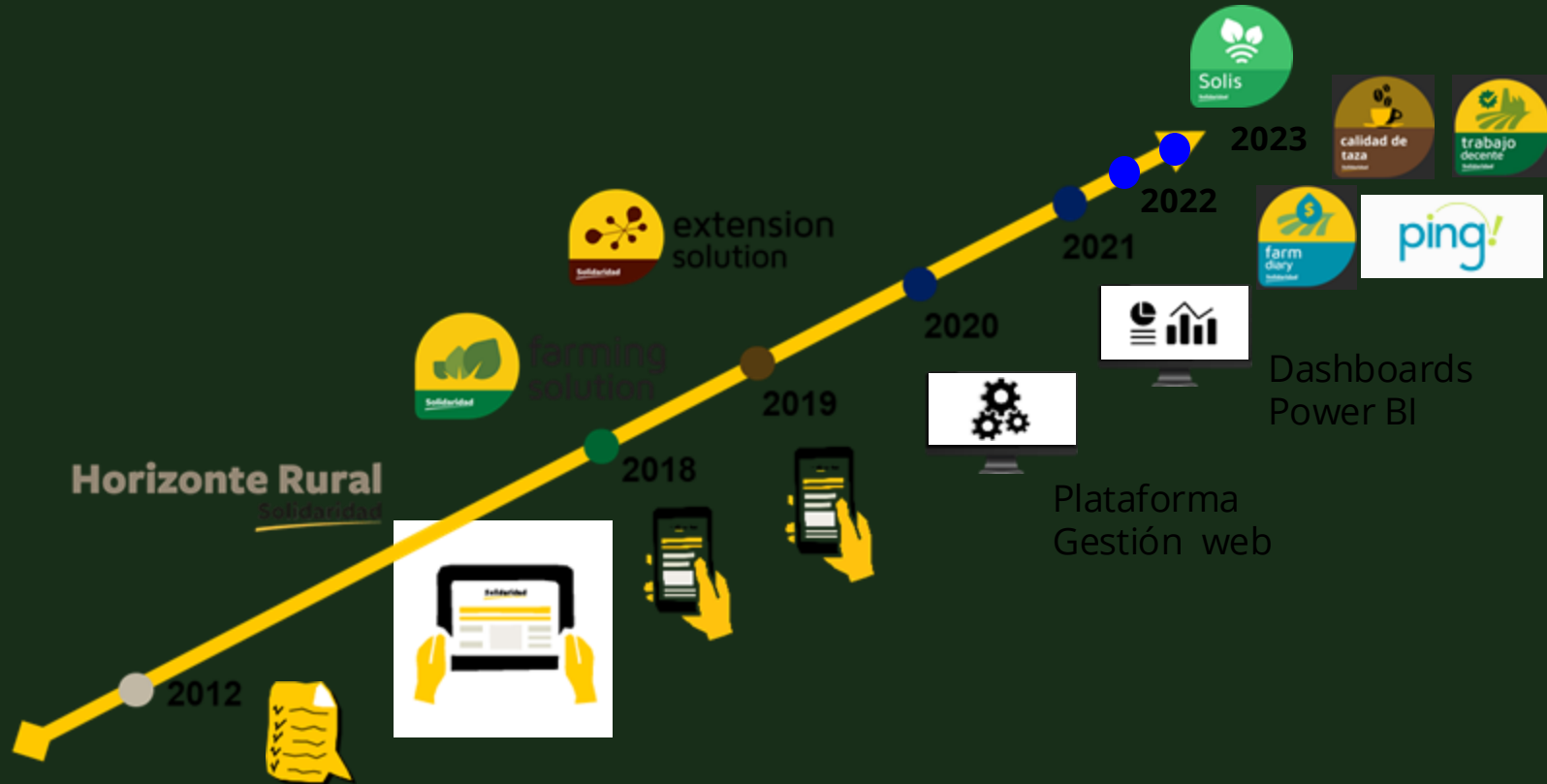


**Lesly Vera Gonzales**  
Palm Oil Programme Manager  
Solidaridad Peru

**Small in Volume, Big in Data  
(The LatAm Experience)**



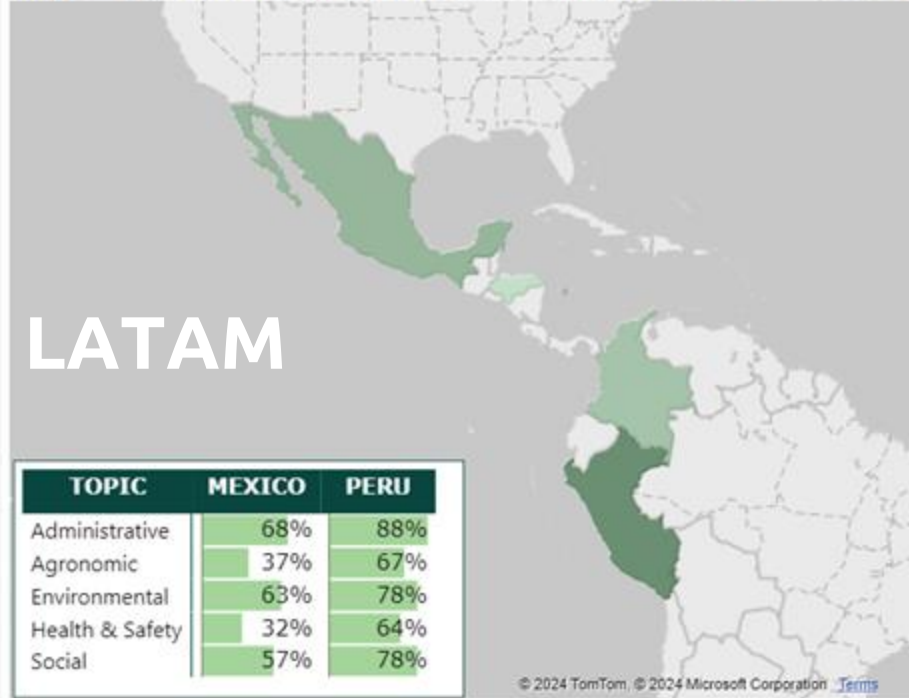
# FROM PO SUPPLY CHAIN NEEDS TO DS TOOLKIT ROUTE MAP 2012-2023



- TOGETHERNESS & ALIGNMENT
- RECORD KEEPING PRACTICES
- CONTINUOUS IMPROVEMENT
- CUSTOMIZATION/ STANDARDIZATION
- DECISION MAKING
- INCLUSIVENESS
- COMMUNICATION

**706** Farmers   
 **38** Extensionists   
 **8565** Palm Area (ha)   
 **624** Forest (ha)   
 **106,0 Mil** FFB Volume (ton)   
 **18,1** Yield FFB (ton/ha)   
 **26,5 Mil** CPO Volume (ton)   
 **4,5** Yield CPO (ton/ha)

**MAP - LATAM PALM | AVERAGE ELIGIBILITY - RSPO**



**LATAM**

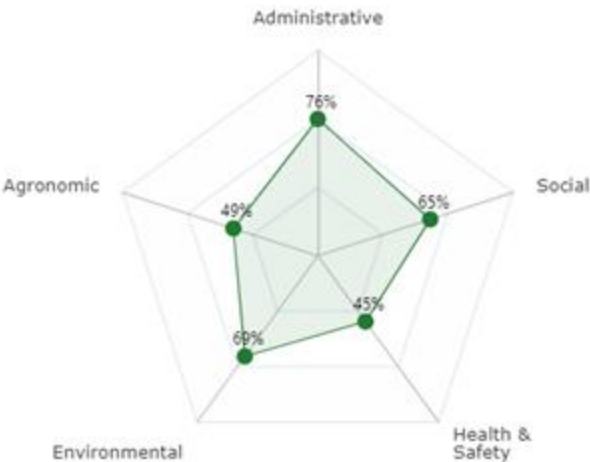
TOPIC	MEXICO	PERU
Administrative	68%	88%
Agronomic	37%	67%
Environmental	63%	78%
Health & Safety	32%	64%
Social	57%	78%

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**AVERAGE COMPLIANCE**

Total	Eligibility	Milestone A	Milestone B
<b>49%</b>	<b>58%</b>	<b>41%</b>	<b>34%</b>

**ELIGIBILITY**



extension solution



**MAIN PRIVATE PARTNERS**



# APPROACH TO INCLUSIVE DIGITAL TOOLS IN LATAM



CLIMATE SMART &  
REGENERATIVE /RESTORATION



DIGITAL TOOLS applied to  
PMEL



MARKET ENGAGEMENT &  
COLLABORATIVE  
PLATFORMS/SECTORIAL  
AGREEMENTS





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**Thank you/ Gracias/ Kop khun ka**

**Solidaridad**



**László Máthé**

**RSPO Accreditation Programme Manager  
Assurance Services International (ASI)**

**Enhancing Oversight  
Capabilities With Advanced  
Technology**



# Examples of advanced technological solutions



**Data  
analysis**



**Remote  
assessments**



**Remote  
sensing /  
drones**

# Data analysis

**Objective:** Improve assurance effectiveness, focus on high-risk certificate holders and streamline processes. Test AI technology, improve user experience

**Benefits:** Detects trends, optimizes resources, improves audit consistency, and enhances transparency.

**Limitations:** Requires precise data formatting and further fine-tuning.

# Remote assessments

**Objective:** Reduce travel costs and time, facilitate remote participation of stakeholders, augment our perspective.

**Benefits:** More effective and comprehensive audits, reduced travels costs, improved participation.

**Limitations:** Connectivity requirements, competencies and privacy concerns.

# Remote sensing and drones

**Objective:** Improve assurance effectiveness, improve allocation of auditing time, facilitate access, augment our perspective.

**Benefits:** More effective and focused audits.

**Limitations:** Requires technical equipment, permits, and expertise.





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Thank you





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End of session

Thank you for joining us!