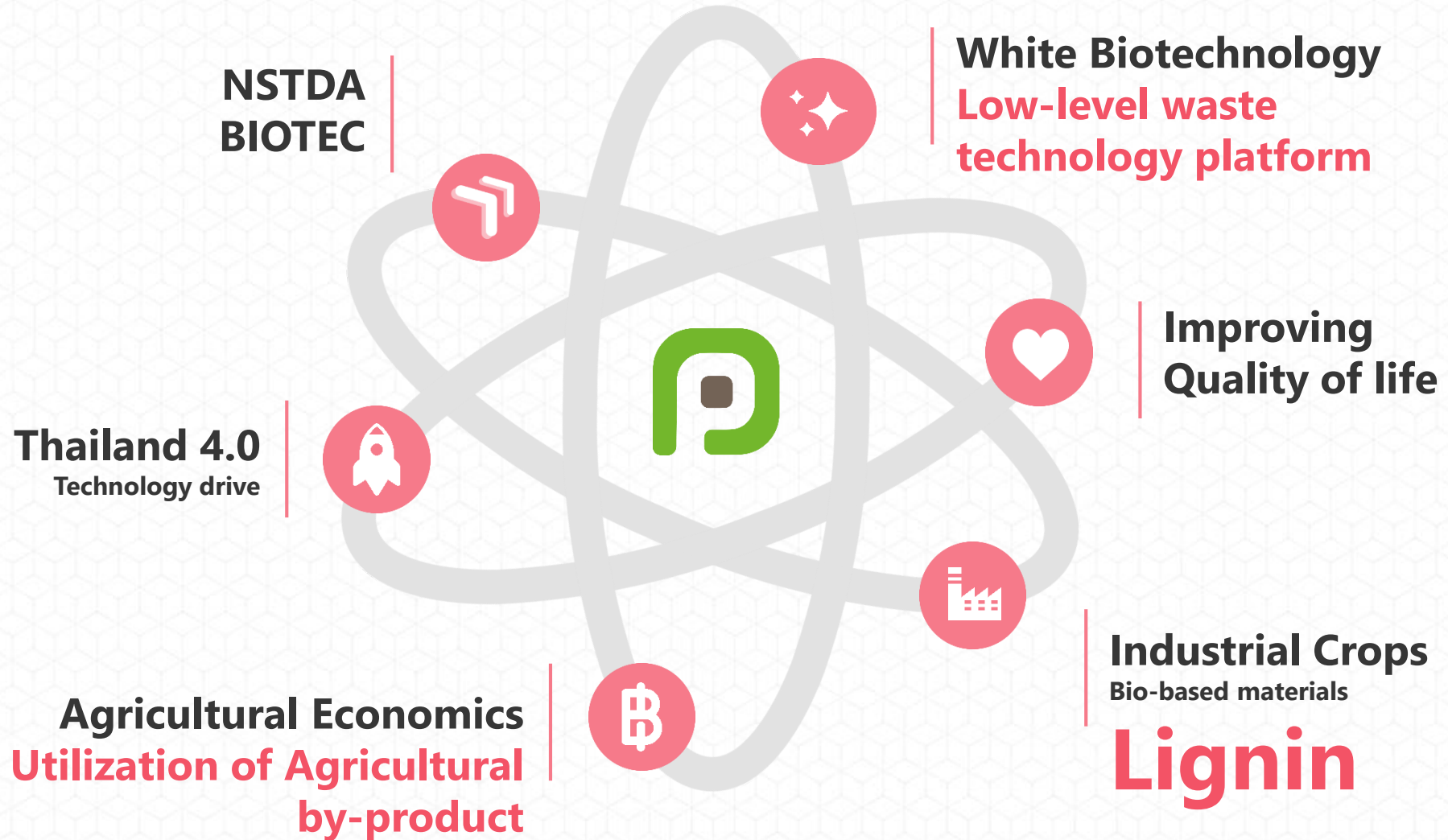




Jackapon Sunthornvarabhas, PhD

P Lignin Care's OVERVIEW



New choice of "BAGASSE" to "value added"



Sugarcane
92.95
MT/year



Bagasse
26.03
MT/year



Produce
Fuel



Sugar
10.03
MT/year

\$560/T
(~18Baht/kg)



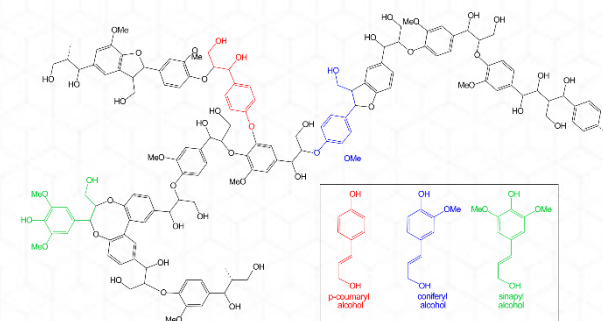
- Land for storage
- Fuel policy
- Fuel to Value added product



**Lignin Extraction
Technology
To Value added**



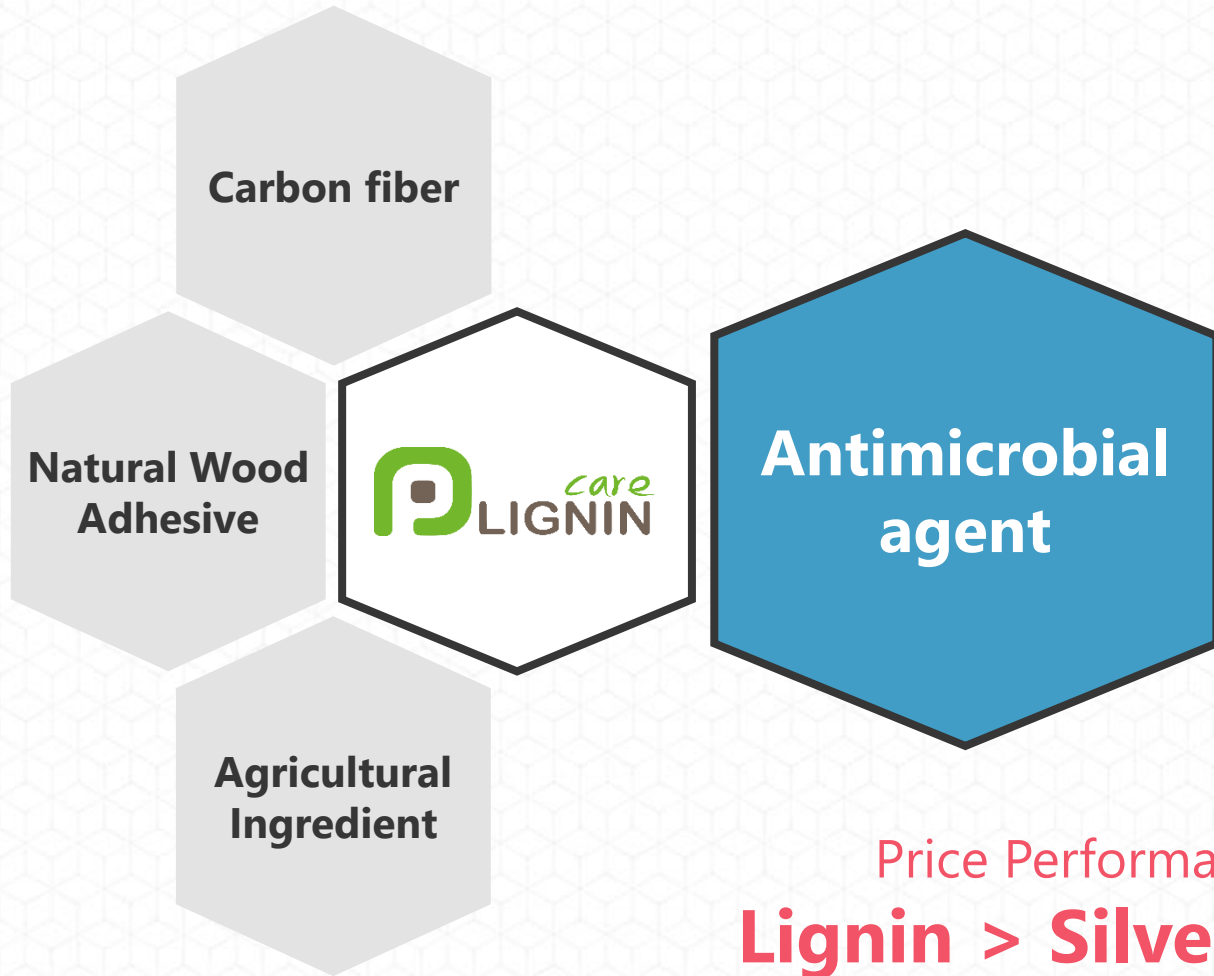
\$300-1,800/T
(~10-60 Baht/kg)



Lignin Extraction



Lignin Application



Market size

Expect worth in 2025
more than

\$7.4 Billion
(0.24 trillion Baht)



Coating solution



Spray



Antimicrobial textile



Sanitary product

Testing for Antimicrobial agent application



- ☒ **Antimicrobial testing**
Respiratory tract Bacteria/Fungi

- ☒ **Toxicity testing**
Human dermal skin cell

- ☒ **Performance Testing**
Hygienic face mask

Lignin Manufacture

China



HUANGHUA
LITEXIN TECHNOLOGY
CO.,LTD

France and China

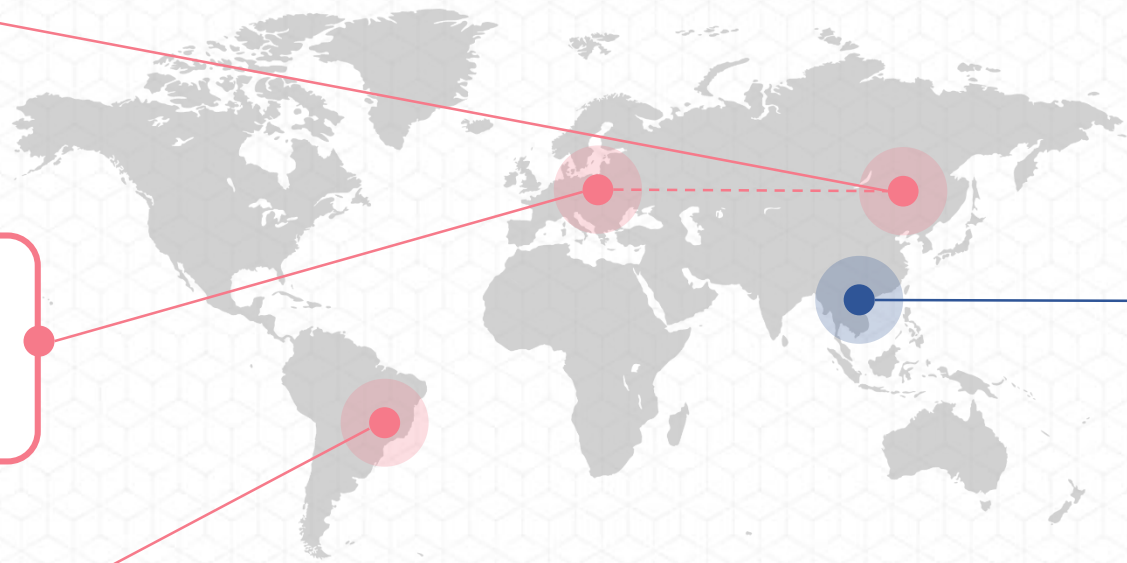


cimv
THE BIOREFINERY CONCEPT

Brazil



Fibria



Opportunity

Thailand



Sugarcane in Thailand

92.95
MT/year



Bagasse

26.03
MT/year

**Lignin Extraction
Technology
To Value added**

 **care
LIGNIN**

P lignin cares Package



Technology Platform

- Pilot Scale
- low-waste system



Support Team

- NSTDA/KU/KMUTT



Opportunity

- By product....





Antimicrobial agent

Low-level waste lignin extraction platform

Jackapon Sunthornvarabhas, PhD

jackapon.sun@biotec.or.th

Suknimit Sujira (Business Development Agent)

suknimit.suj@biotec.or.th

Ratchawan Tanuttawongcharoen (Licensing Agent)

ratchawan.tanuttawongcharoen@nstda.or.th

NSTDA Investment Center

nic@nstda.or.th, 0 2564 7000 (1359, 1345)