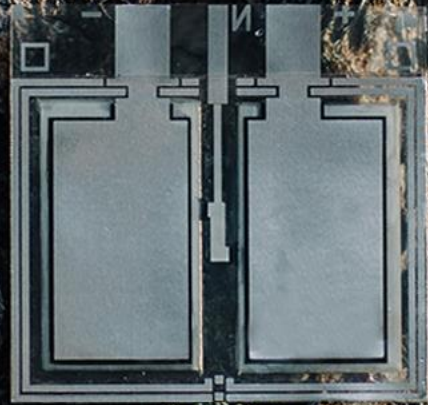


**LARGE** Sustainability  
IMPACT



With a **SMALL** COMPETITIVE  
COMPONENT



# INTERNET OF THINGS



ANY DEVICE



ANYBODY



ANYWHERE



ANY BUSINESS



ANY NETWORK



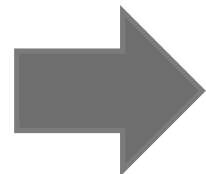
ANYTIME

# MASSIVE VOLUMES (+) BATTERY WASTE (-)



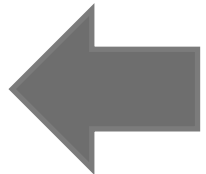
27 BN

CONNECTED  
IOT DEVICES



78 MN

IOT-DEVICE  
BATTERIES  
EXPIRING  
DAILY



2-3 YEARS

AVERAGE  
LIFETIME OF  
IOT BATTERIES



5-10 YEARS

AVERAGE  
LIFETIME OF THE  
WHOLE SENSOR  
DEVICE

EVOLUTION OF IOT DEVICES  
THINNER, LOW TCO, SELF-POWERED

LIGNA  
ENERGY



# TWO SOLID FOUNDATIONS FOR A UNIQUE SOLUTION

LIGNA  
ENERGY

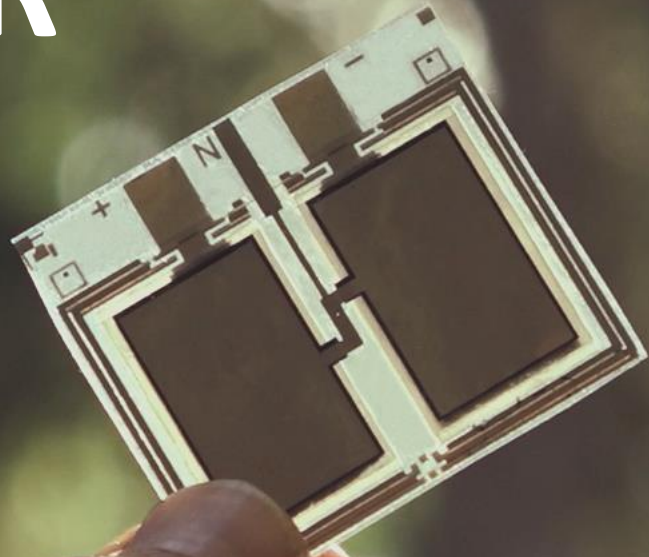


SUSTAINABLE MATERIALS RECIPE,  
RE-USING WASTE FROM FOREST  
INDUSTRIES



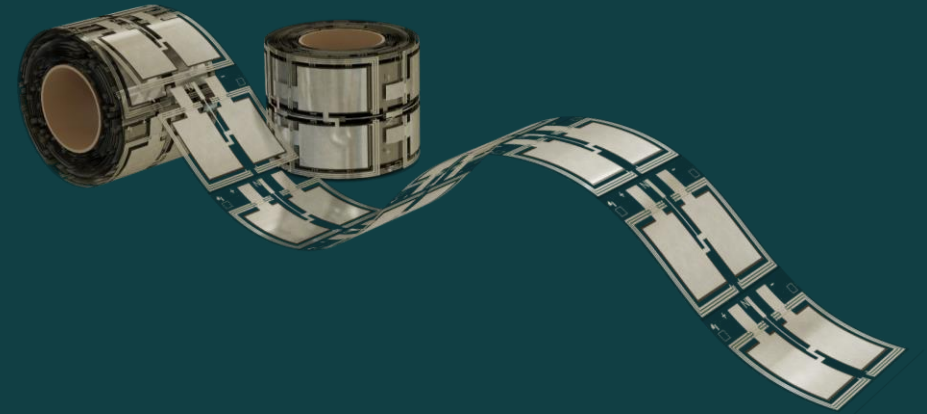
INNOVATIVE COMBINATION OF  
EXISTING ROLL-TO-ROLL PRODUCTION  
AND CONVERSION MACHINERY

# S-POWER



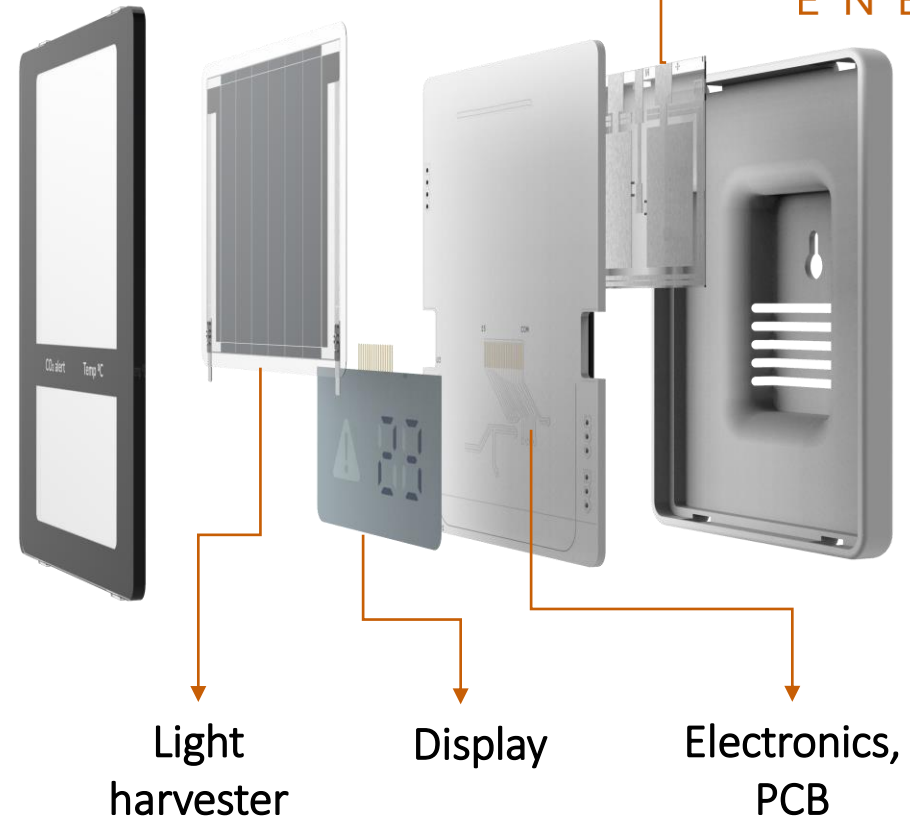
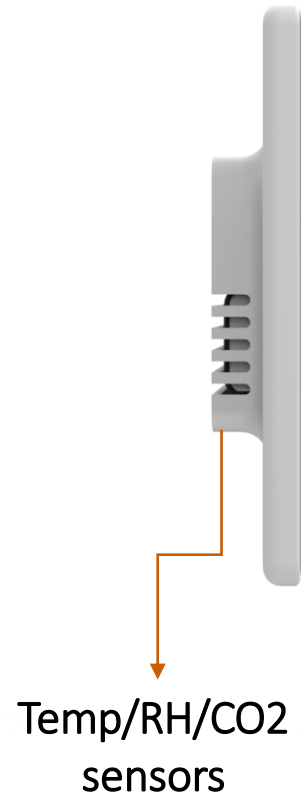
THIN  
FOREST-BASED  
SAFE

RECHARGEABLE  
BENDABLE  
COST-EFFICIENT



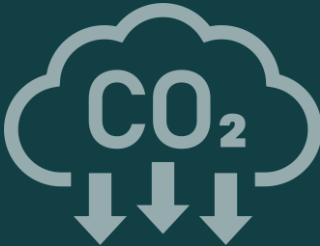
# CUSTOMER EXAMPLE

## SMART BUILDING SENSOR NODE

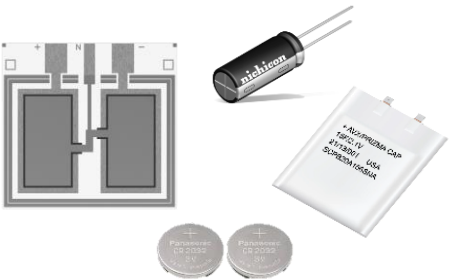


**LIGNA**  
ENERGY

# SUSTAINABILITY IMPACT



1



**10 – 100 kton**

**LESS CO2 THAN  
COMPETITORS**

2



**100 - 500 kton**

**FEWER BATTERY  
EXCHANGES**

3



**500 mnton**

**EFFECTS OF GREEN  
SENSING**



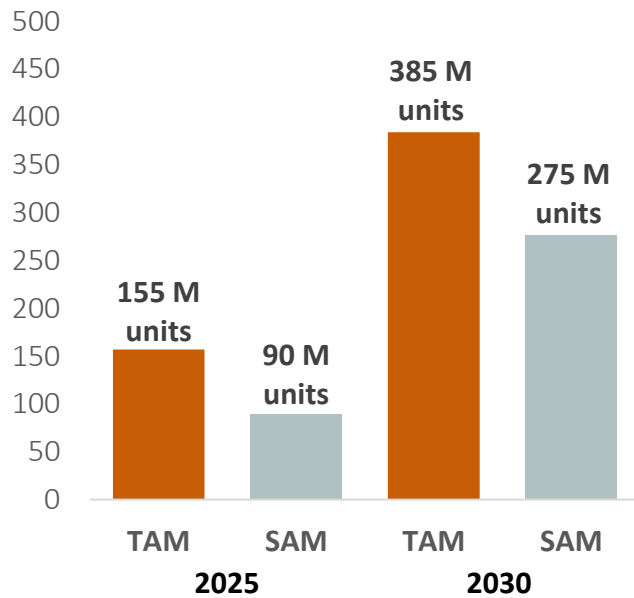
# SERVICEABLE MARKET AT BILLION UNITS LEVEL

## THREE FOCUS SEGMENTS

### Electronic shelf labels



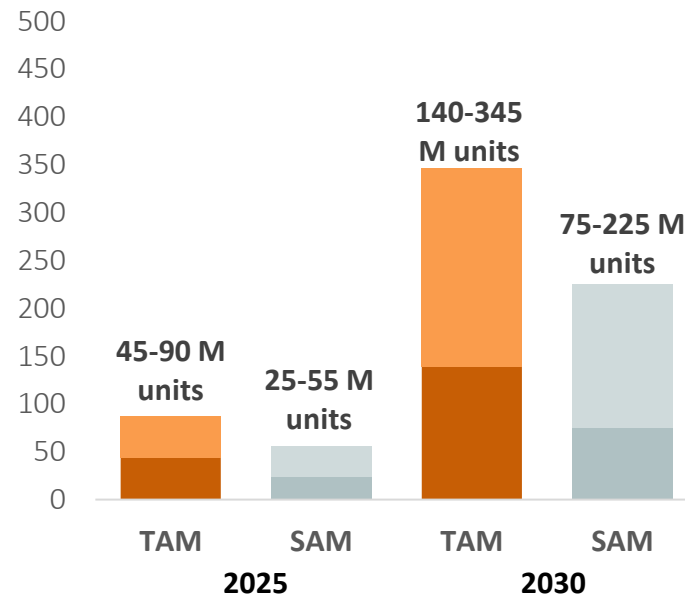
Market in scope of SAM: E-paper



### Smart building sensors



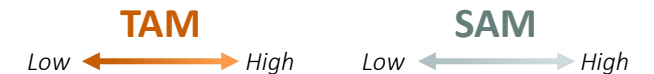
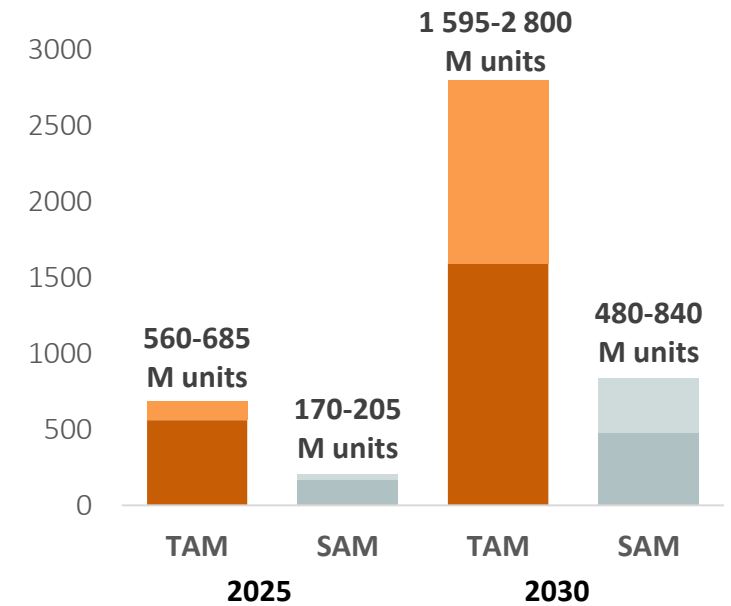
Market in scope of SAM: Temperature sensors & air quality sensors



### Asset tracking



Market in scope of SAM: RFID, BLE, LPWAN and UWB



# SCALE-UP INVESTMENT €4-5M

Production & Sales Acceleration

**LIGNA**  
ENERGY

**2023**

**GO TO MARKET**

Equity 4M€

500k+ units Industrial  
production capacity

2<sup>nd</sup> product launch

Sales expansion Nordics &  
build distribution network

**2024**

**TO PROFIT**

Equity 10M€

3M+ units capacity

Company ISO certification

Sales expansion Europe +  
Distributor network

**2025-27**

**EXPANSION**

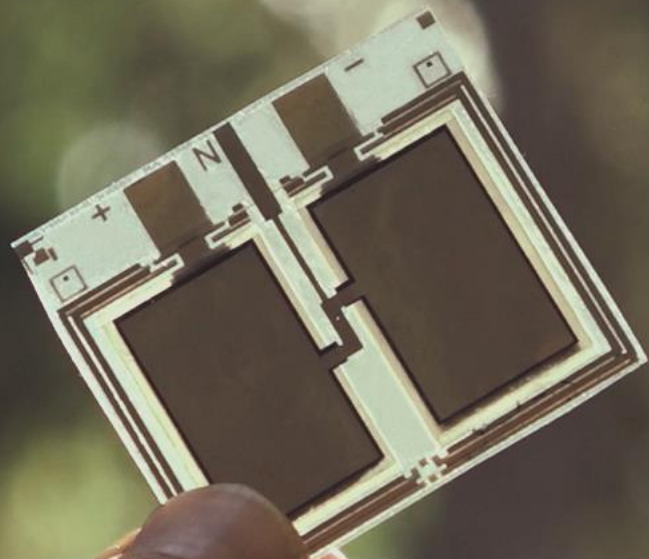
Equity 20M€

25M+ units  
capacity

Sales expansion WW

Extension through  
sales reps

**SELF POWER  
WITH  
S-POWER**



The THINNEST  
and MOST  
SUSTAINABLE  
solution

”Profit for the  
planet”



PETER RINGSTAD  
CEO

**LIGNA**  
ENERGY