



# TIN FOR TOMORROW

DATE: 9<sup>th</sup> NOVEMBER 2023    PREPARED BY: DR JEREMY PEARCE  
PREPARED FOR: ASIA TIN WEEK 2023



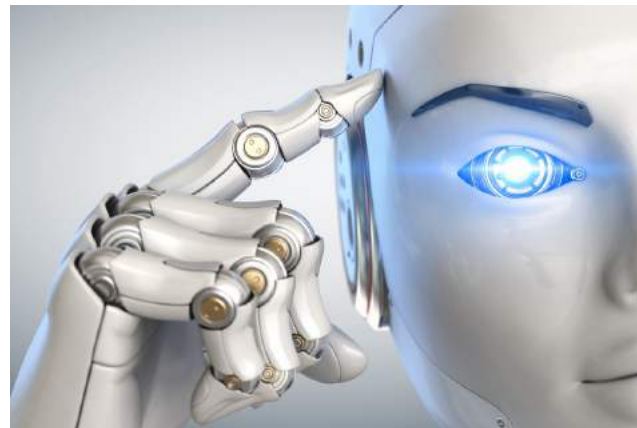
## Climate change a 'global emergency'

**Technology** is crucial to achieving NetZero  
Switch to renewable energy

Reduce energy use, capture waste energy

Control emissions, cut pollution

**Tin is already enabling the transition**



## Digitalisation will revolutionise the way we live

The fourth industrial revolution - machines, biology & data

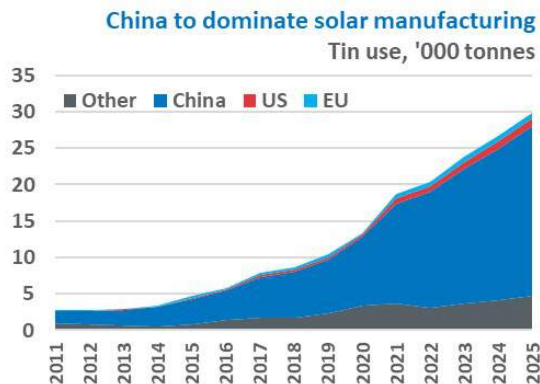
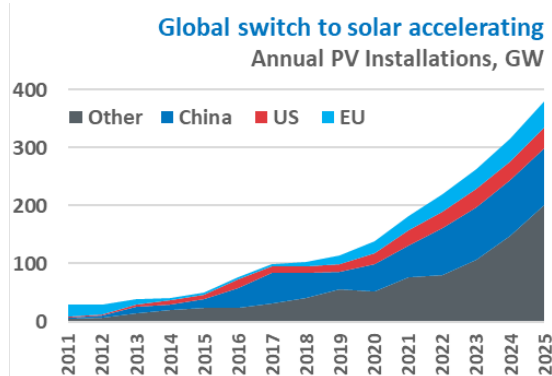
New communications networks

Sensors in everything to measure and relay data

Artificial Intelligence (AI) will coordinate systems

**Tin is the glue that will hold everything together**

# Our world is changing fast



**The silver strip across the front of solar panels is tin**

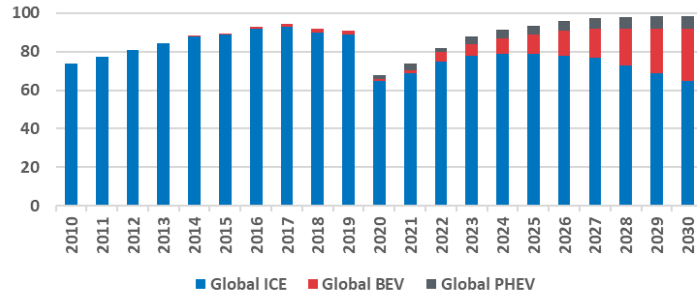
A tin solder coated onto a copper ribbon  
The ribbon connects the modules together and conducts the electricity  
Also used in junction boxes and power electronics solder joints

**74 tonnes of tin is used per GW**

**Global solar targets rely on tin**

## EVs use 1000g tin vs 500g in ICE

Annual global passenger-car and light-duty vehicle sales, to 2030  
millions



- Power electronics
- Wiring & connectors
- Charging stations



Power electronics **solder joints are much bigger**  
Tin is also used in bronze wires and tinned connectors  
Charging stations also use tin and tin-copper

# Electric vehicles use twice as much tin