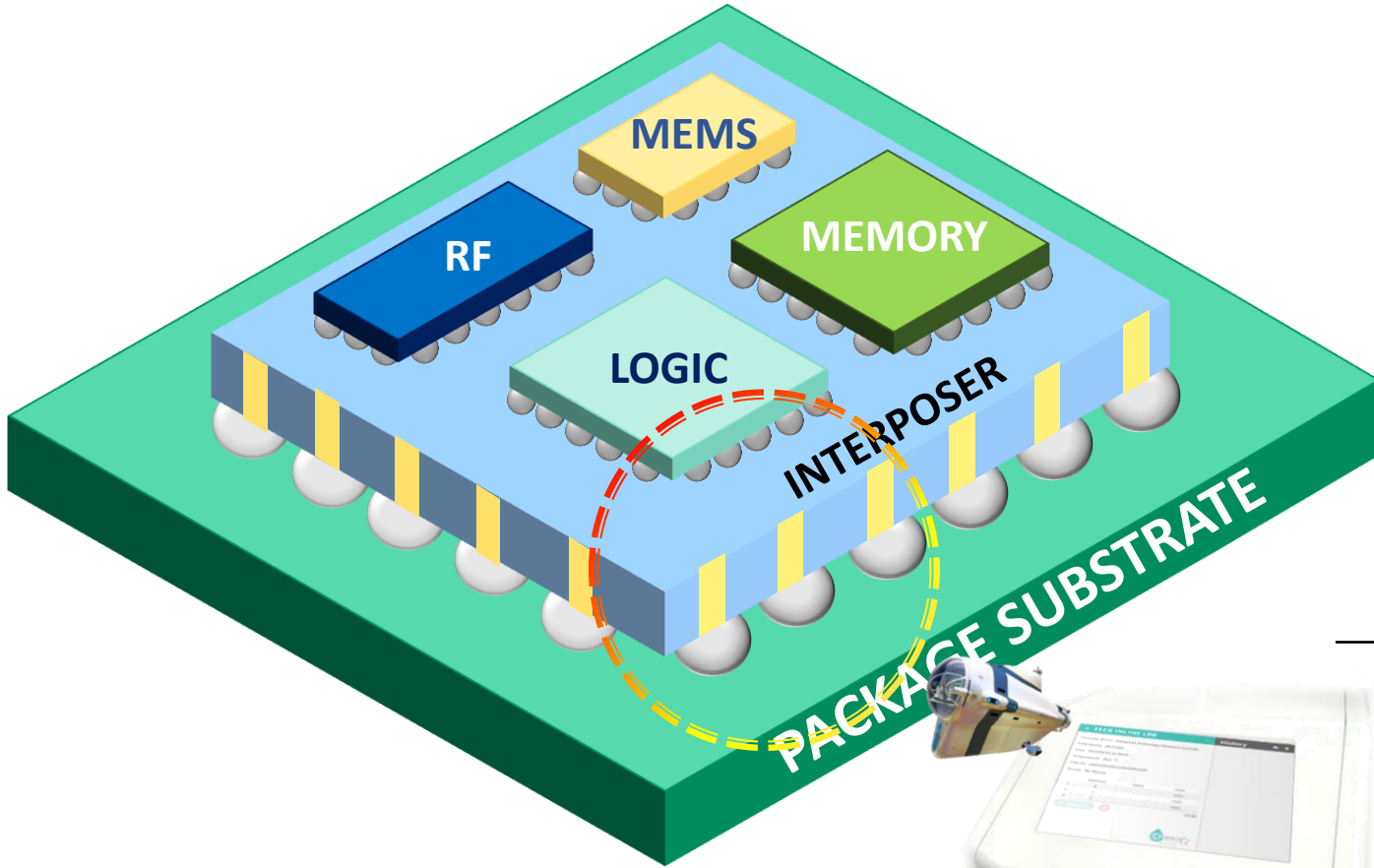


# 3D Electroplating Chemical Additive Real-Time Detection Technology



Using Fast Electrochemical Capturing Analysis (FECA) technology, all additives and metals in 3D packaging electroplating solution can be analyzed within **5 minutes**

**Copper Electroplating System**  
(RDL, TSV)

- ① Brightener
- ② Suppressor
- ③ Leveler
- ④ Copper Ions

**Tin-Silver Electroplating System**  
(Micro Bump):

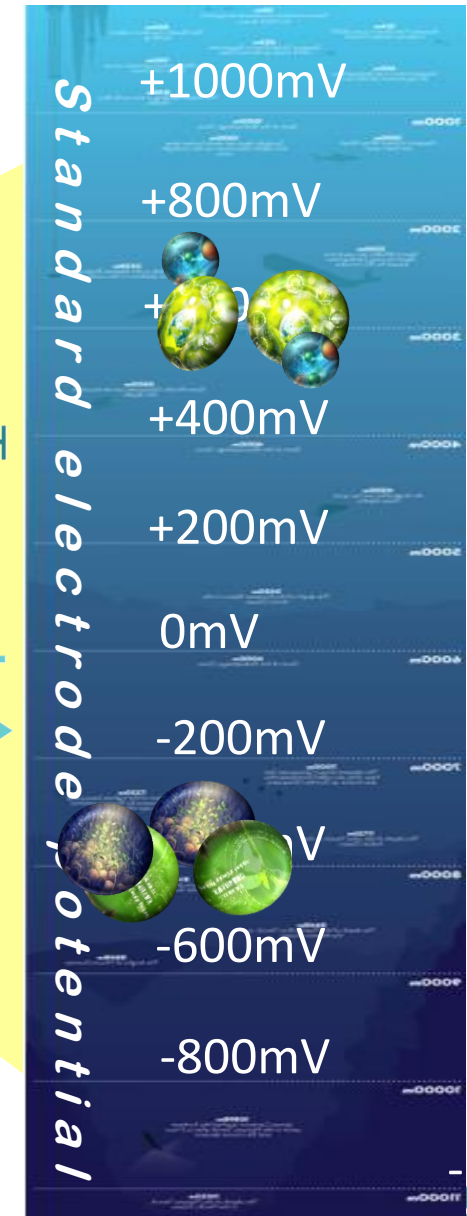
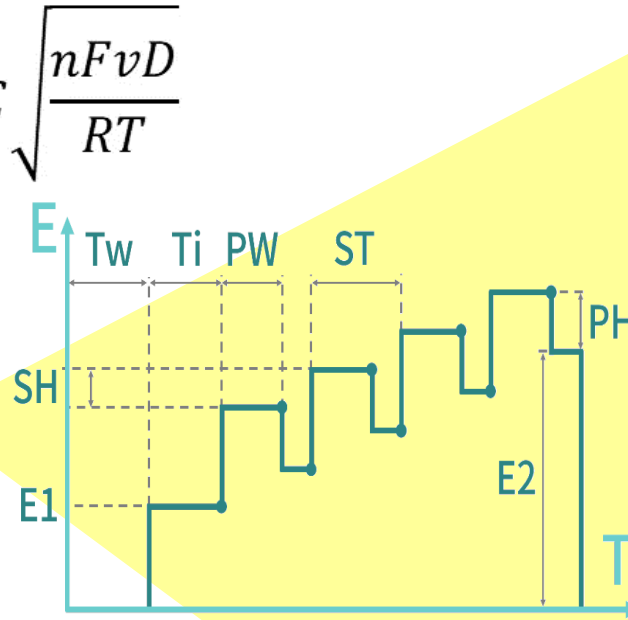
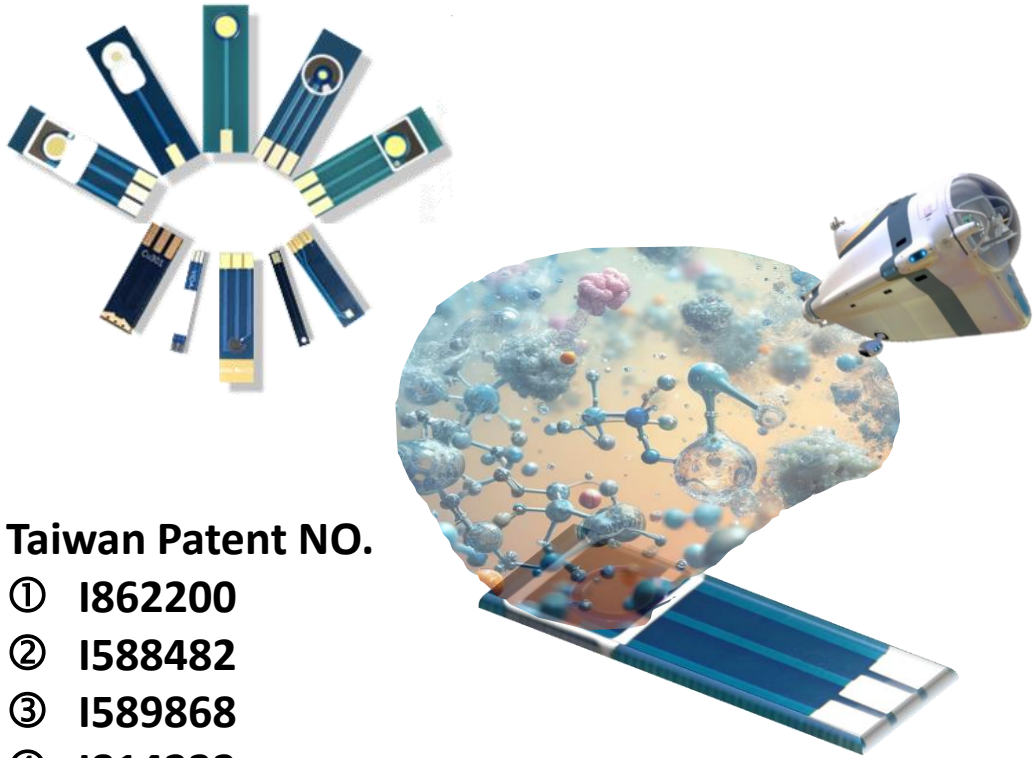
- ① Accelerator
- ② Methanesulfonic Acid
- ③ Silver Complex Agent
- ④ Divalent Tin



# Fast Electrochemical Capturing Analysis(FECA)

Nernst equation:  $O + ne^- \leftrightarrow R$

Randles-Sevcik Equation:  $i_p = 0.4463 nFAC \sqrt{\frac{nFvD}{RT}}$



Taiwan Patent NO.

- ① I862200
- ② I588482
- ③ I589868
- ④ I814233
- ⑤ I589870