

# Study and development of bioresorbable batteries

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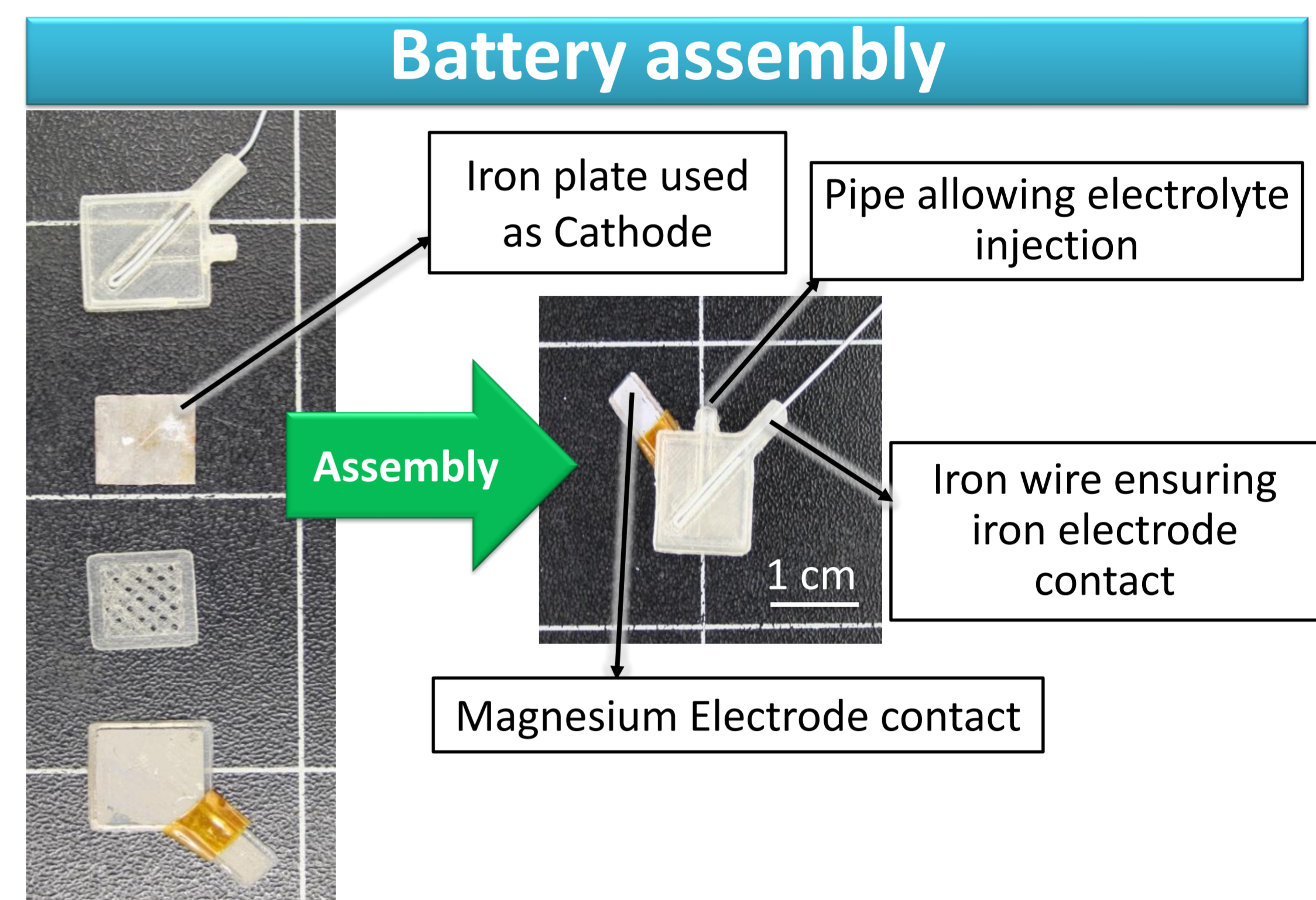
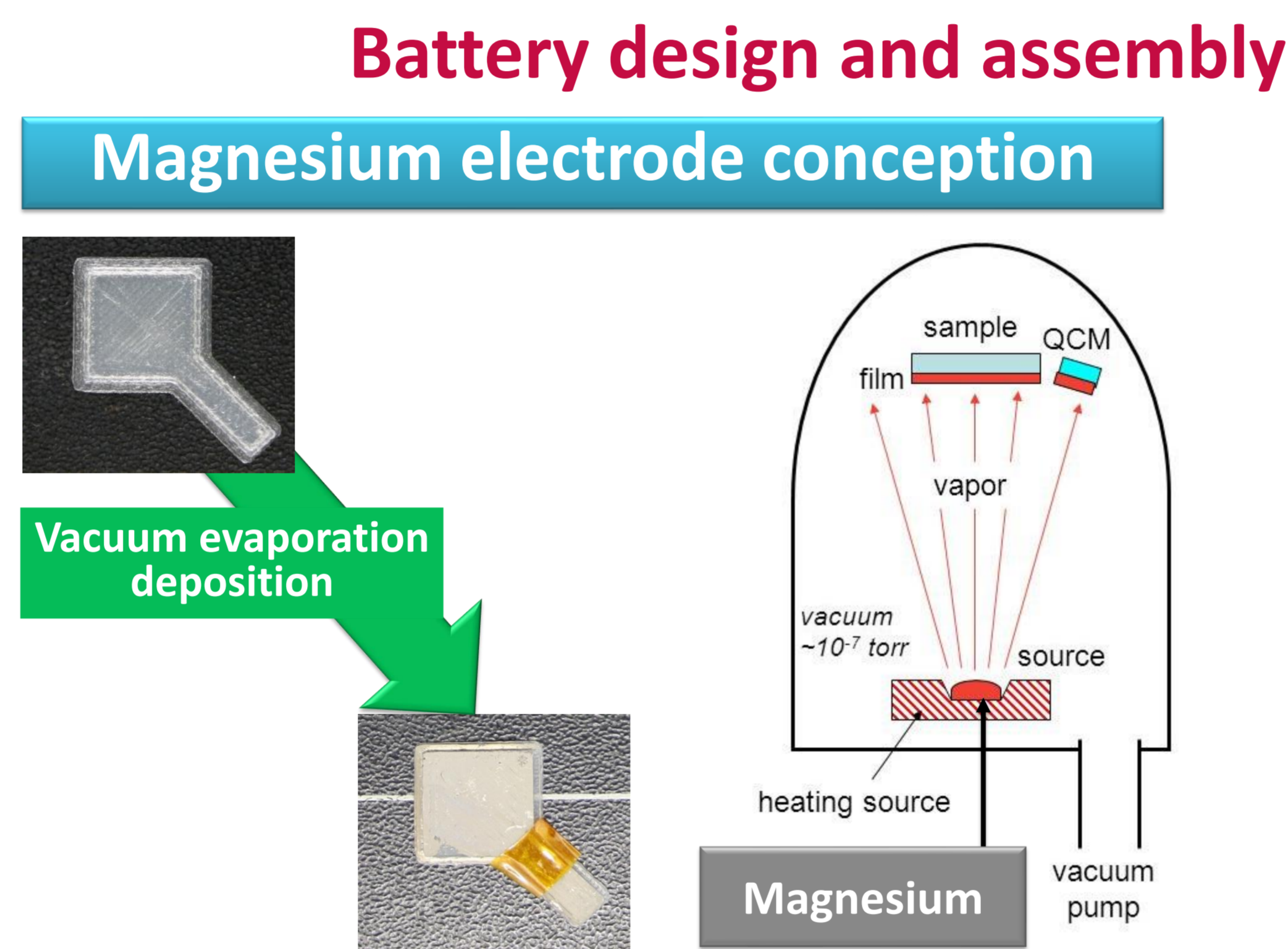
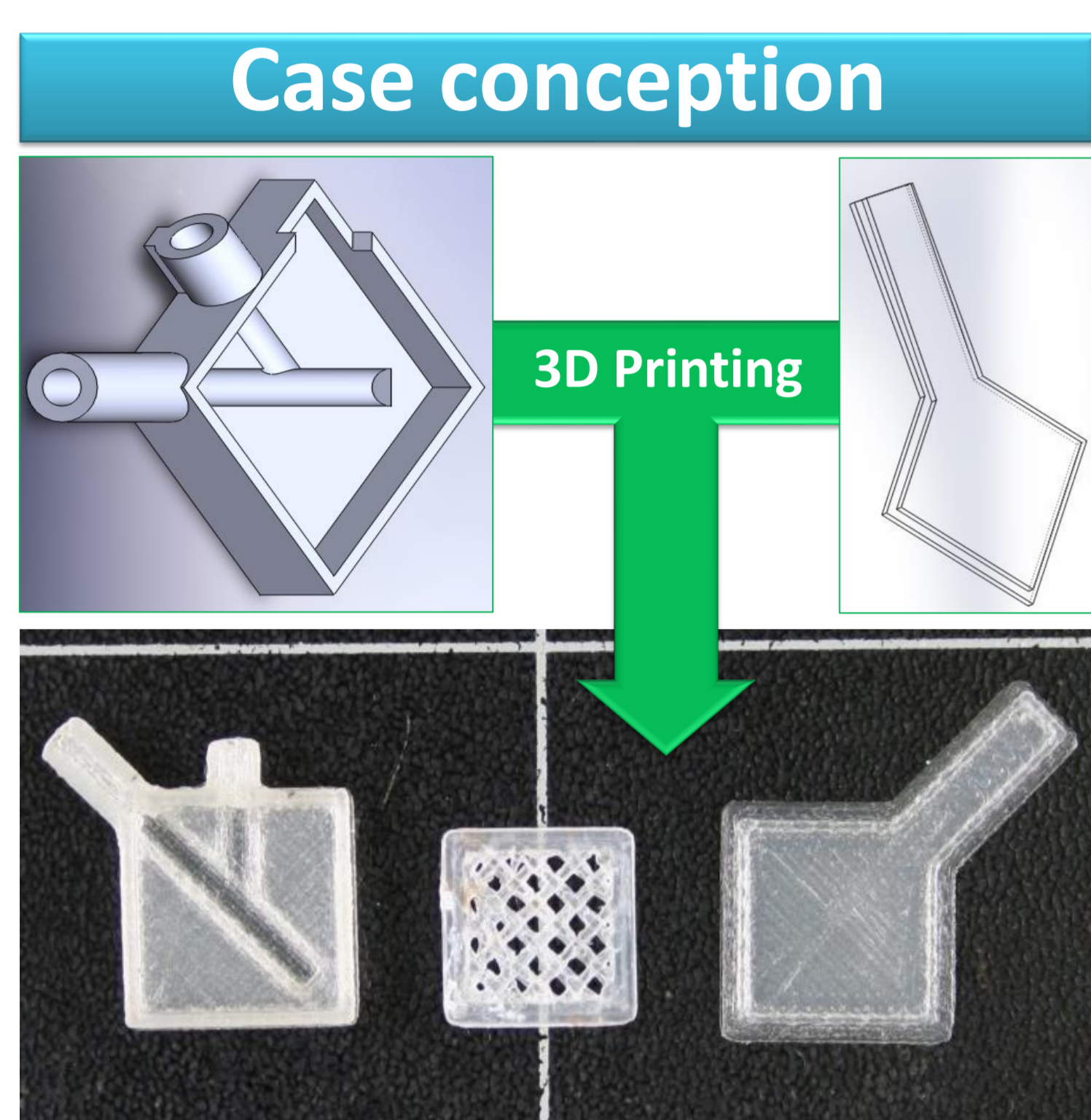
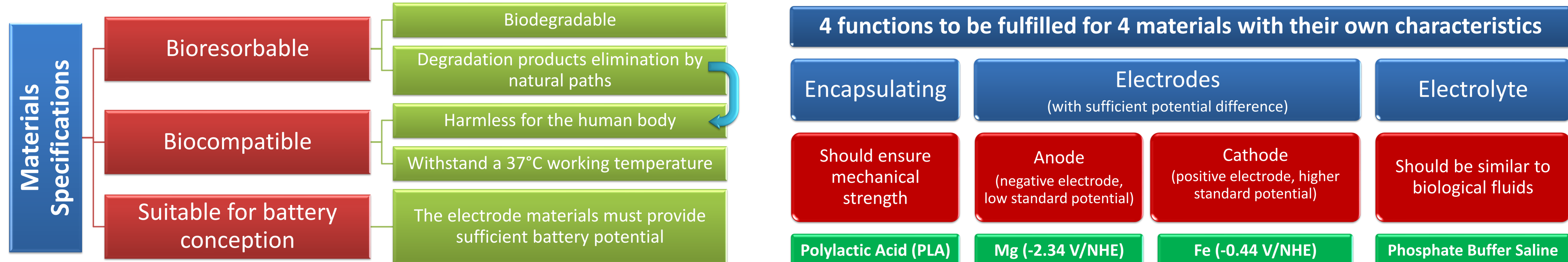
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## Project Framework

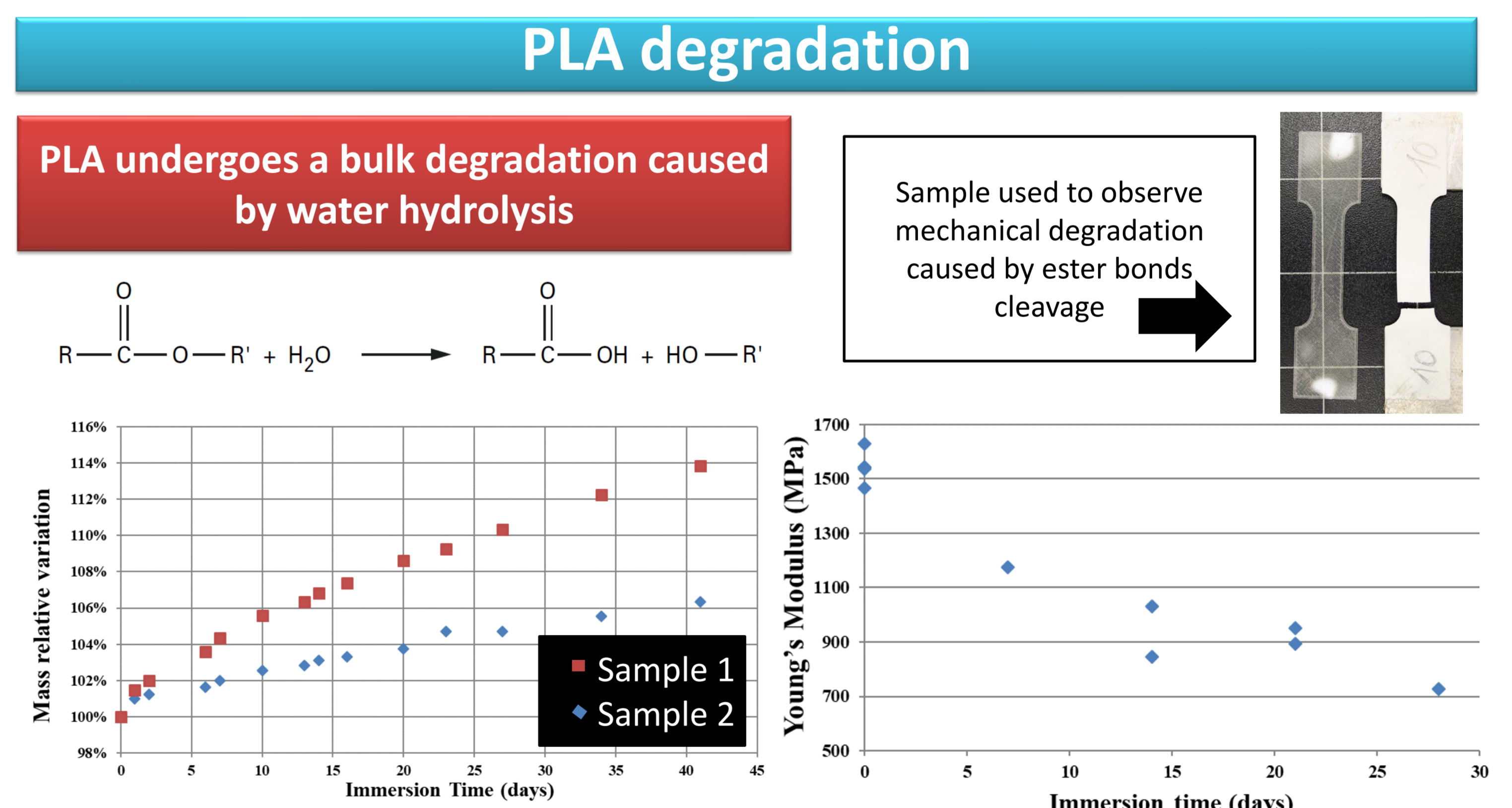
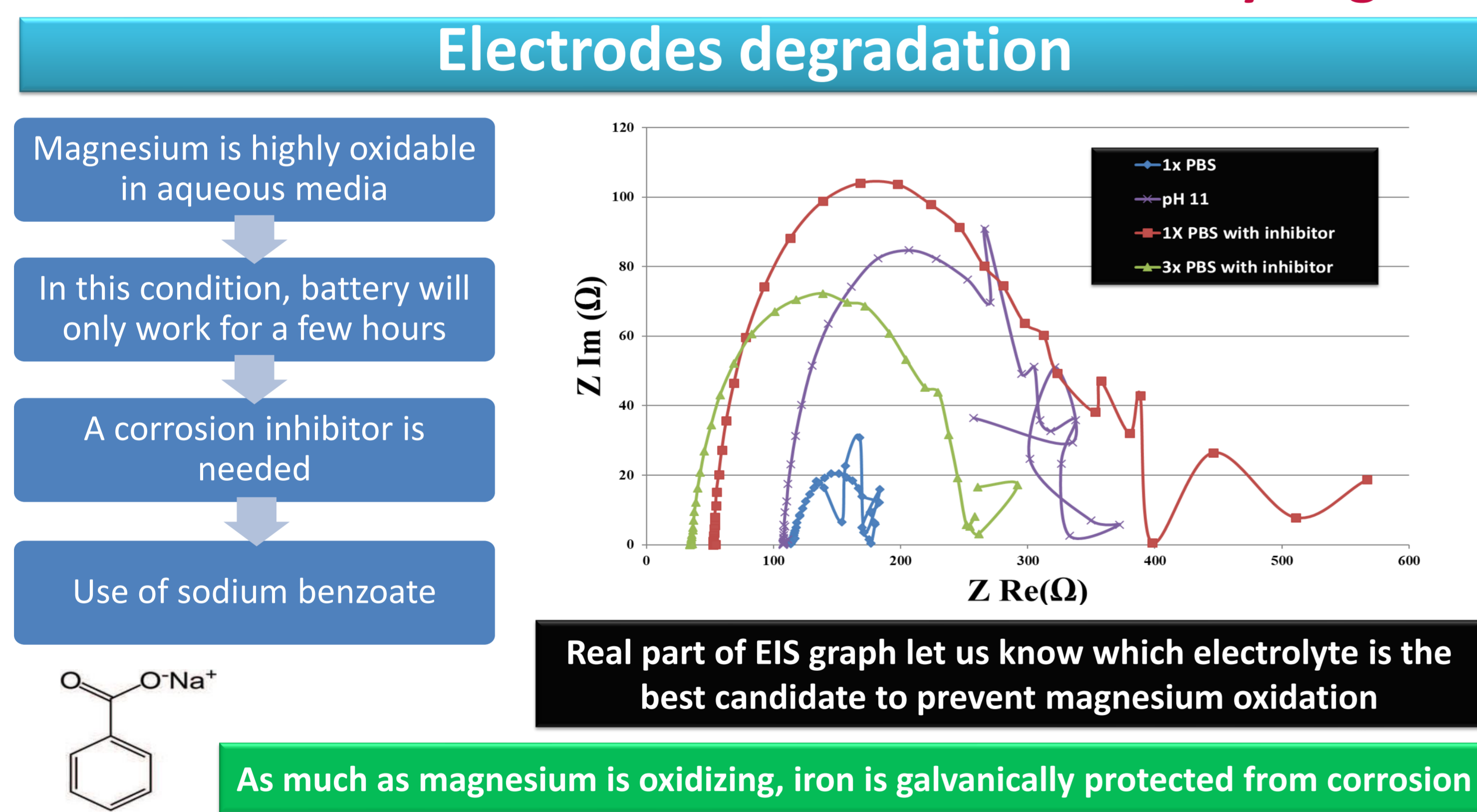
### Main objective :

To study and design a battery capable of supplying a low power electronic device inside the body (for a temporary in situ medical monitoring of a patient, for instance) and which would slowly degrade without leaving harmful traces after use and eventually show its feasibility.

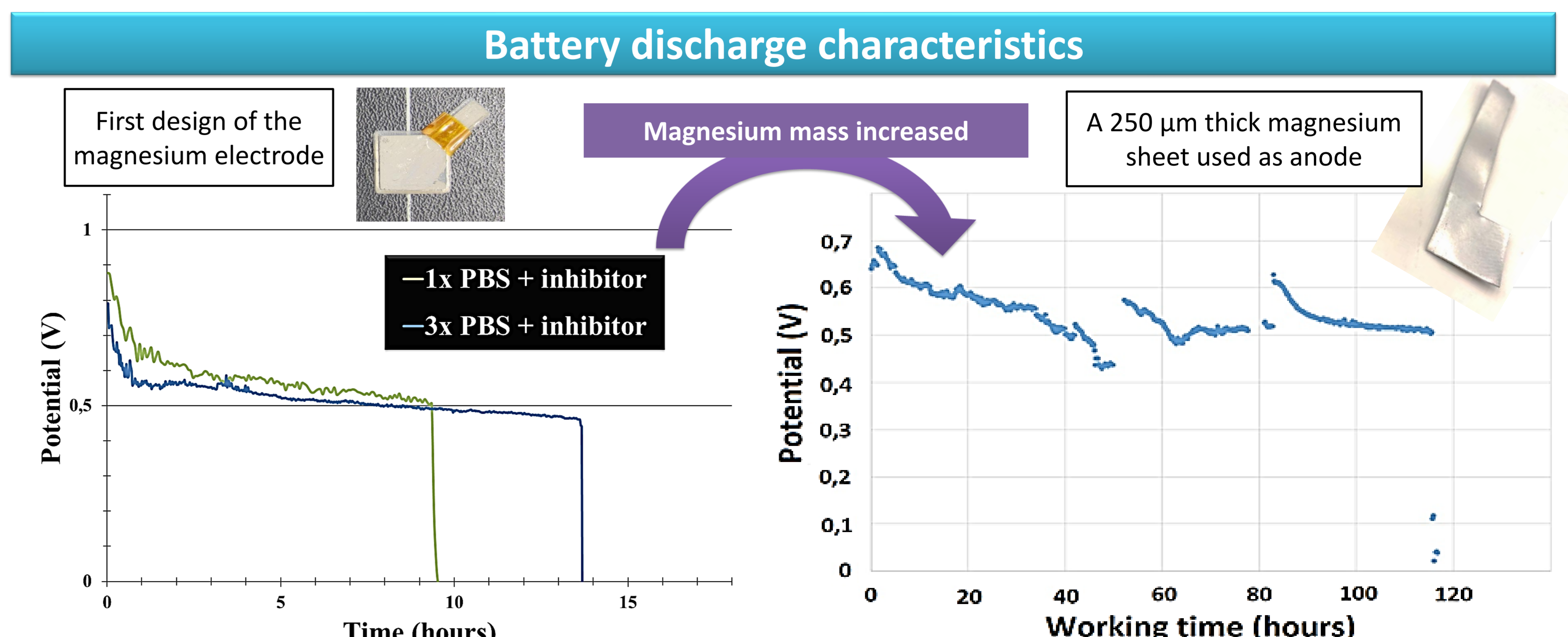
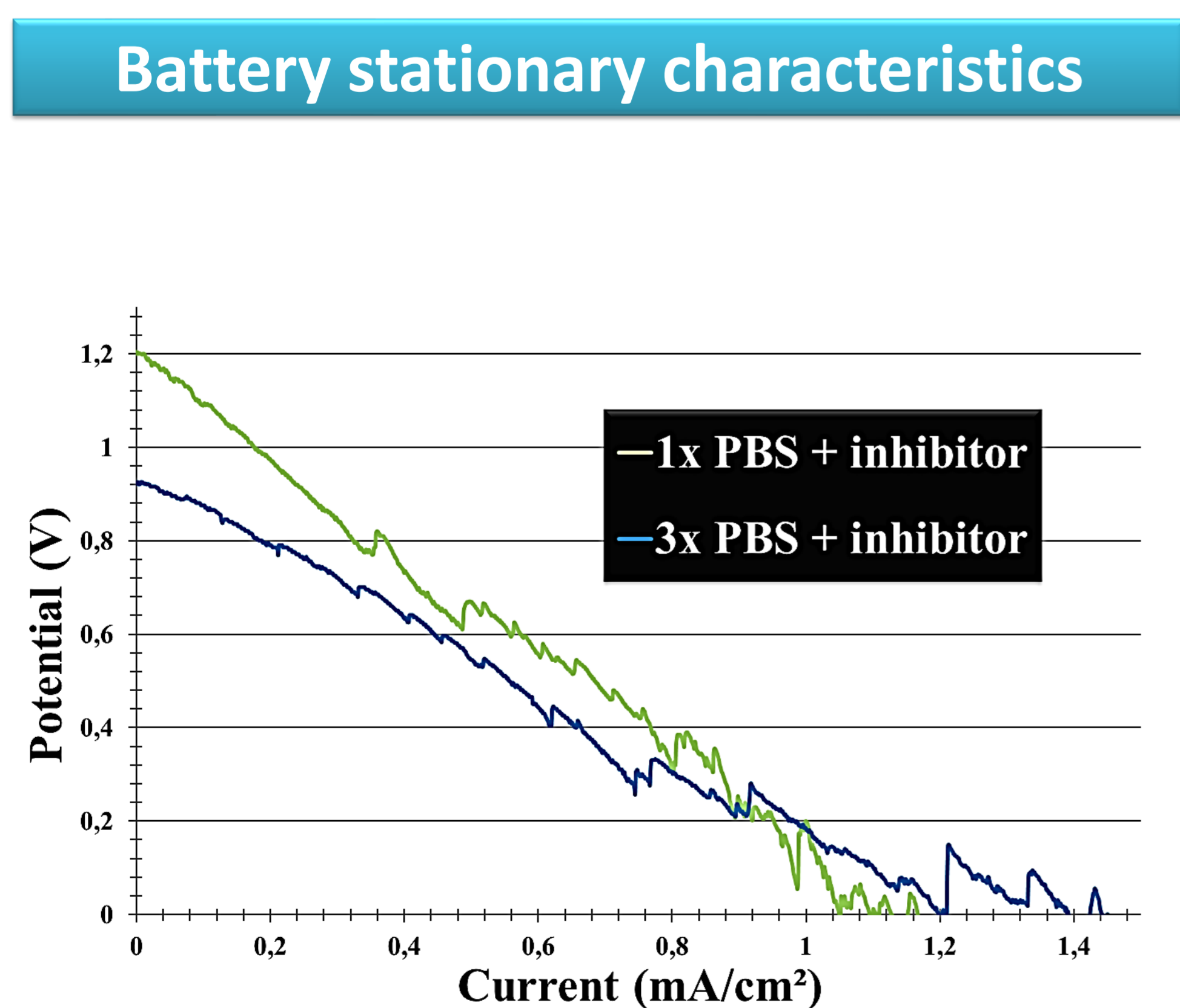
## Chosen Materials



## Battery degradation and lifetime



## Electrochemical performances



## Conclusion and prospects

- ✓ Biodegradable and biocompatible battery conception has been shown.
- ✓ This battery is able to dispense 0,5 Vat a discharge current of 100 μA/cm<sup>2</sup> for several days.
- ✓ The discharge/lifetime of this battery has been optimized.
- A localized corrosion separates the magnesium electrode from its contact connection, which induces an early shutdown of the battery's operation. It's the main point to optimize.