VQV : HALT and HASS CU example

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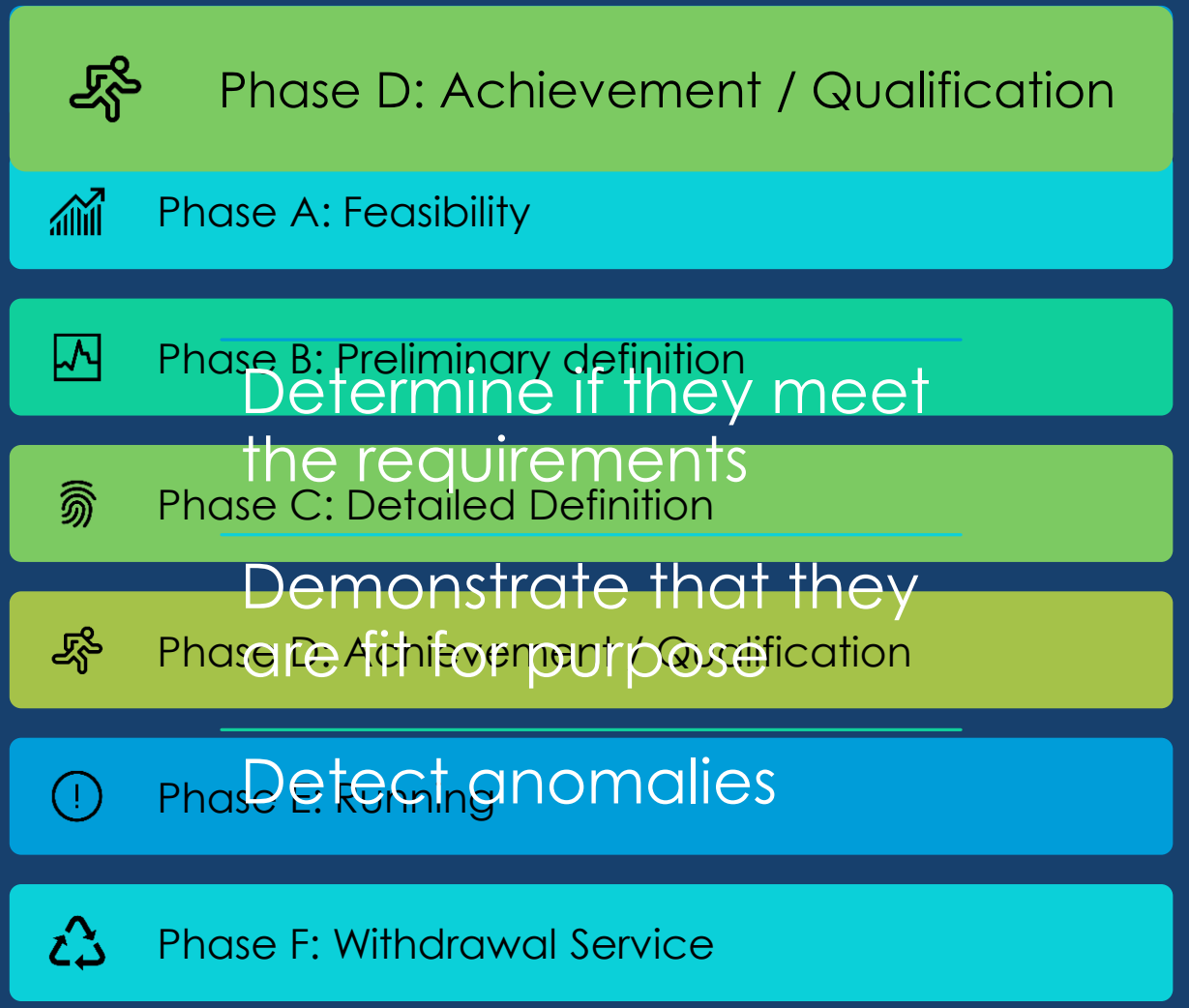
Components Experiments



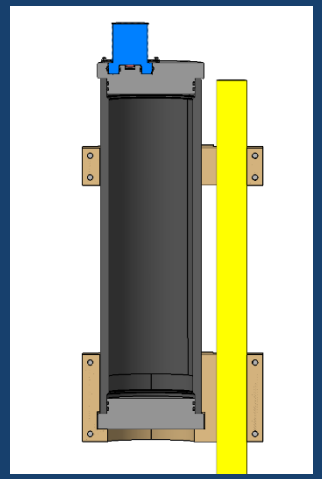
HALT / HASS Hydrophone and Laser example

VQV Procedure introduction

(Verification – Qualification – Validation)

Verification

Check the characteristics and performance of the instrument



Qualification

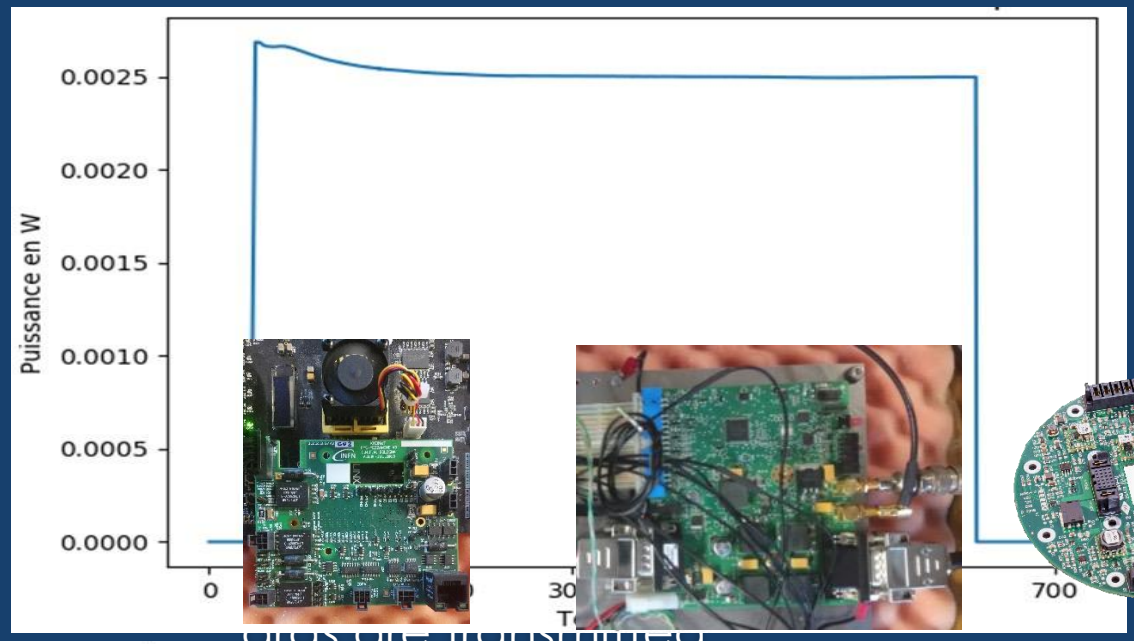
Define instrument's functional limits

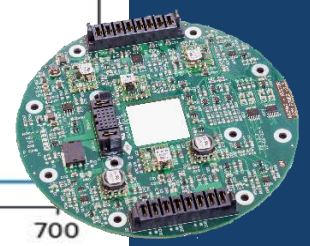
Validation

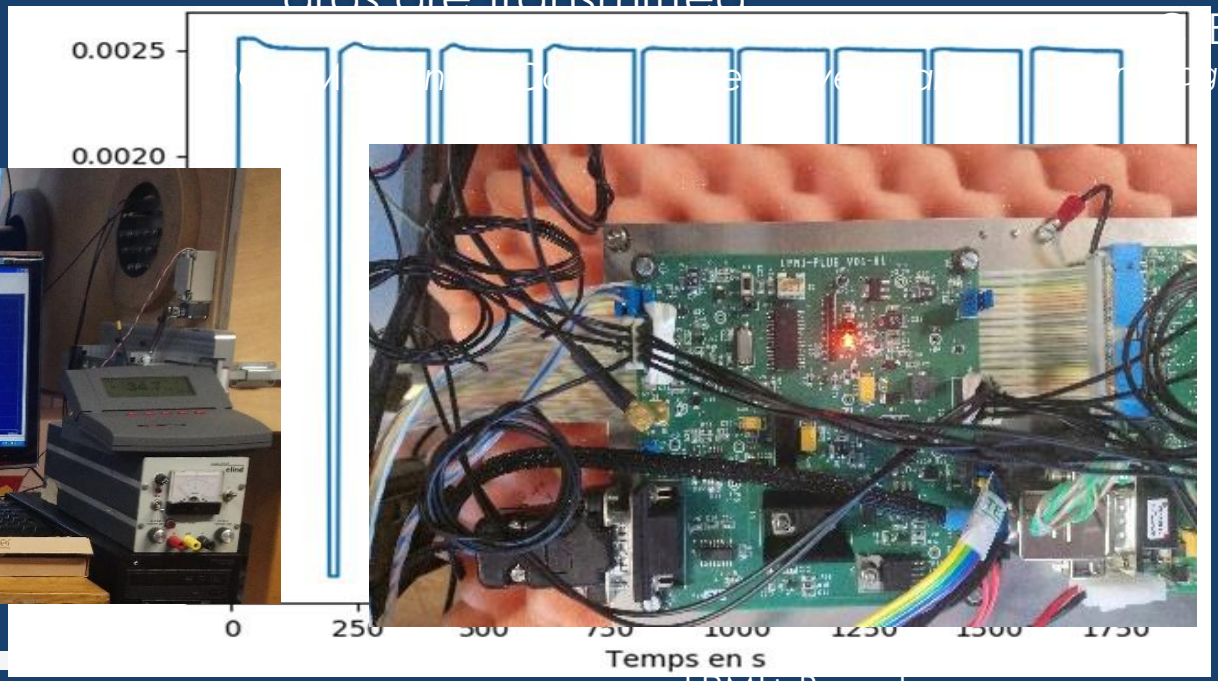
Validate the conformity of requirements

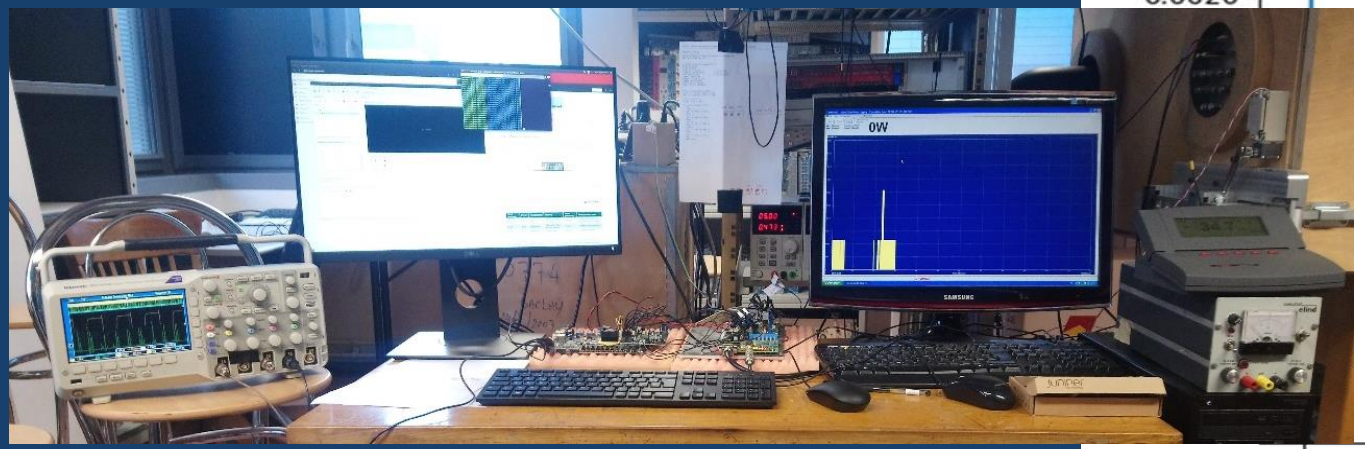
IV. Components Experiments

- ✓ Comments
  - the opening angle
  - the capacity of use of the battery
  - the stability of the laser according









Programming sequence & Visualization sequence

Laser's Top & Bottom view

Search tests on the peak drive beginning of the sequence

The Blank LPMI+ Board

Laser Power Management Interface

IV. Components Experiments

Hydrophone Qualification

Goal | Test Bench | Results

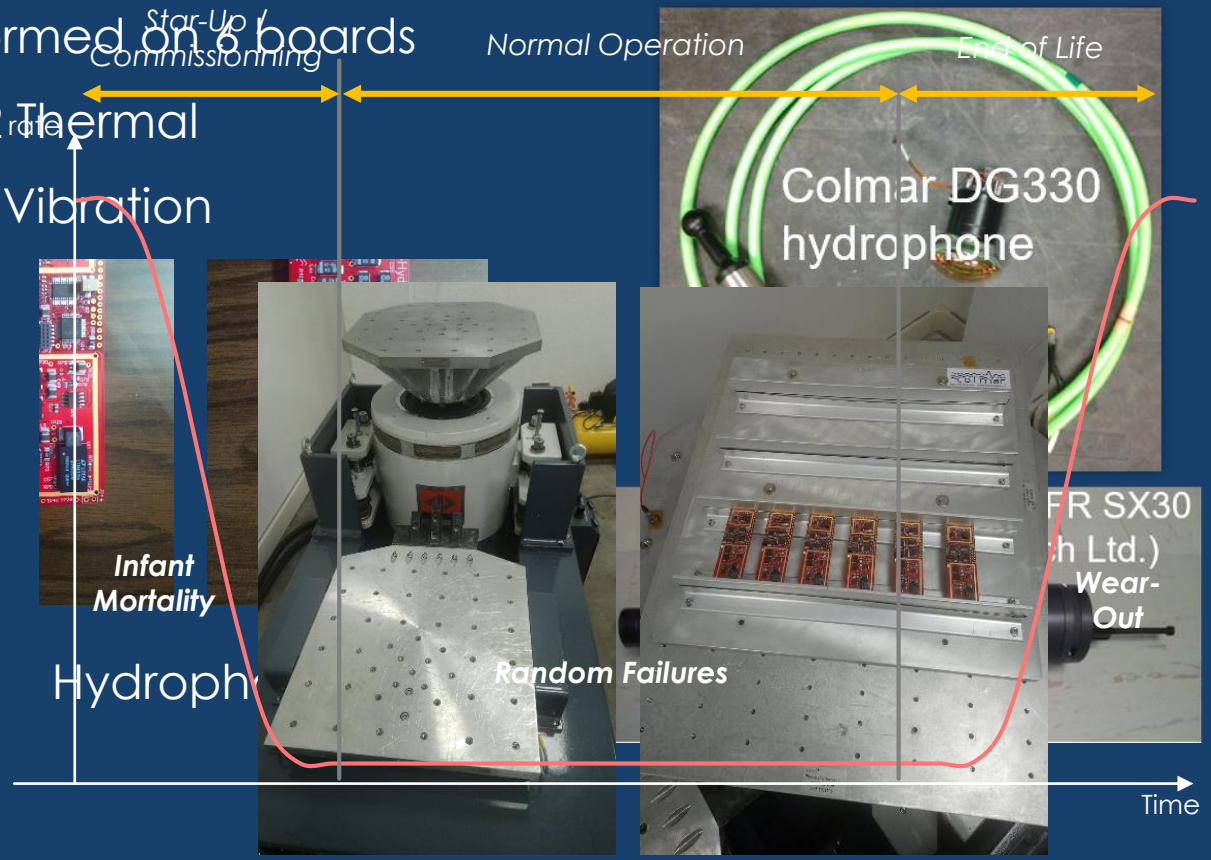
- ✓ Tests performed on 6 boards
  - 2 Thermal
  - 1 Vibration

- ✓ **HALT & HASS**

  - ❖ ***H**ighly **A**ccelerated **L**ife **T**est*
    - Detect design flaws & weaknesses

  - ❖ ***H**ighly **A**ccelerated **S**tress **S**creening*
    - Detect defects related to the manufacturing process

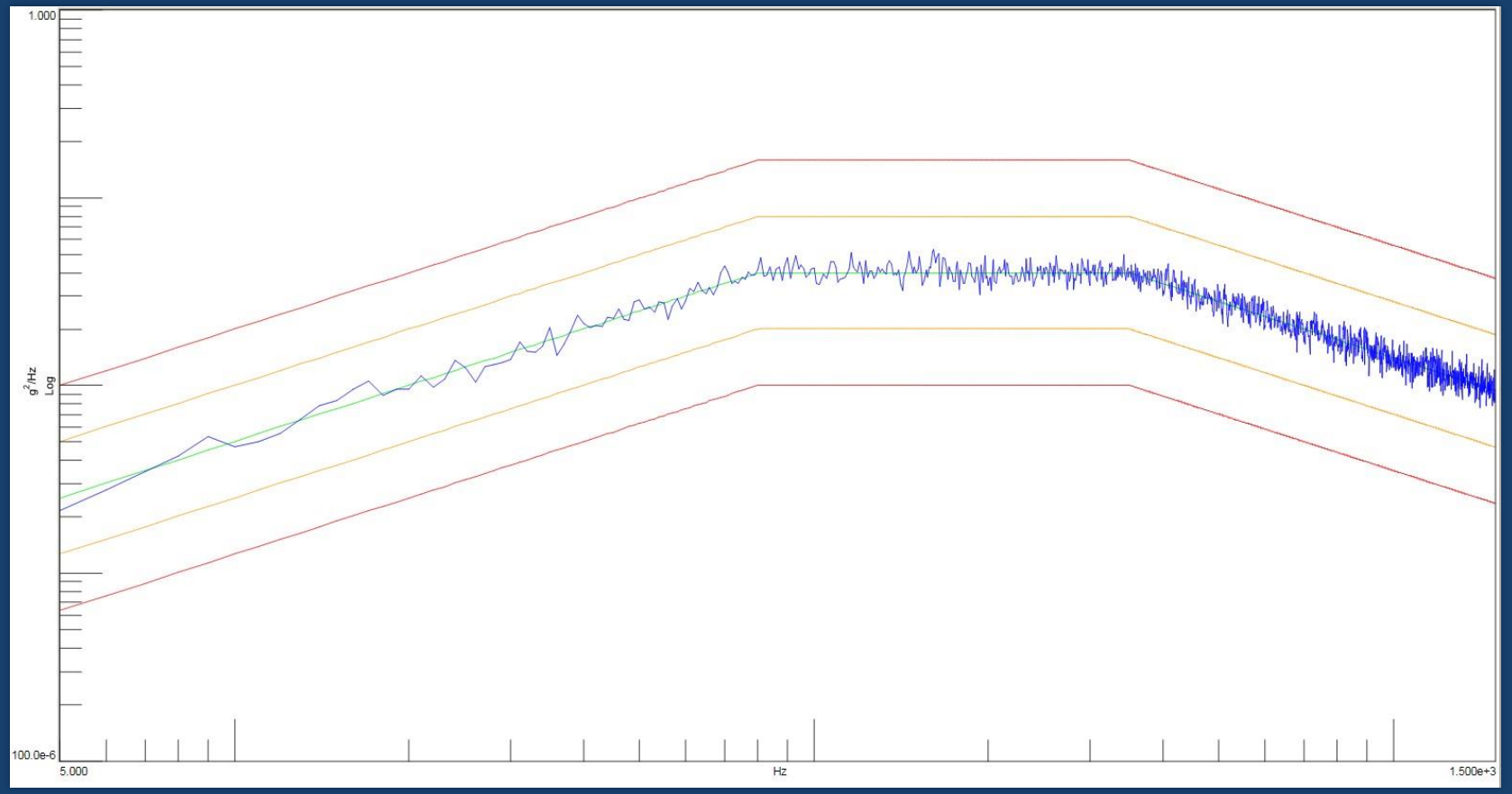
Thermal Test



Product Life cycle

Vibration Test

Vibration Test



Vibration test Chart

IV. Components Experiments

Continuation

✓ Following Steps

- Perform the **HASS test**
  - *Vibration*

    2 cycle of 20 minutes: x or y axis & z axis
  - *Thermal*

    10 thermal cycles on all cards

- Referencing all **anomalies**
- Improve the **test setup** in collaboration with Colmar
- Update the **Qualification procedure**

Conclusion

- Prepare test benches
- Identify facilities
- Preprare plan