EIGHT STEPS TO RELIABILITY TESTING

1 DEFINE THE TARGET

Is your target to study the **lifetime** of your product to improve its **reliability**? Or, do you want to study its **durability** or fulfill your customer's requirements? Different methods are needed for different ocjectives.

2 MAKE MISSION PROFILE

Knowledge of the **use environment** is required when test methods are selected. This information can be estimated but also monitored with various sensor applications.

3 GATHER HISTORY DATA

Check if there is **data** available about how earlier generations of products with the same components and materials performed. Check also **literature** for similar case studies and for research data.

4 CHECK RESTRICTIONS

Materials and **components** tend to have functional limits. Make sure these are in line with use environment and test conditions.

5 NUMBER OF SAMPLES

How many samples would you like to test and how many you are able to test are typically two different things. For statistical data and reliability prediction several samples are needed.

6 DEFINE A FAILURE

It is vital to decide and determine what kind of **change** in performance or appearance is considered as a failure. Measure performance often during testing or, if possible, measure it **in real-time**.

7 CHOOSE TEST METHOD

According to the earlier steps, choose **test** methods which will answer the objectives you want to accomplish. Make sure you test the effects of the most critial environmental conditions.

8 CHECK STANDARDS

Check what kind of **standards** are available regarding to your testing needs and choose a suitable standard. Remember also that it may be better to do **tailored testing** or combinational testing with several stresses.