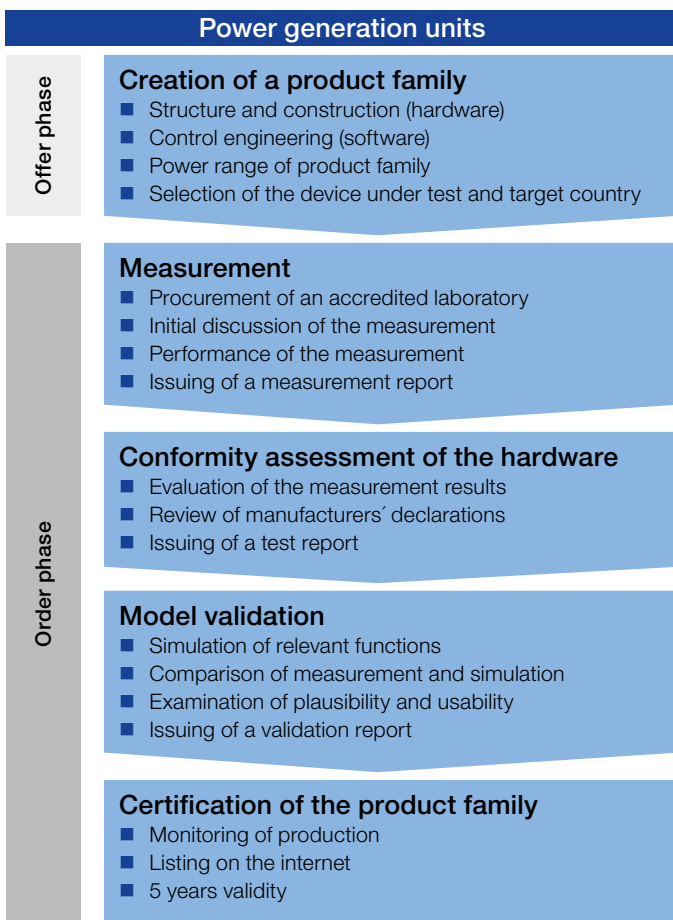


Grid Connection

Grid Code Compliance

When connecting wind energy generation systems (wind farms) to a low-, medium- or high-voltage grid, evidence of electrical characteristics has to be provided. Wind farms must contribute to grid stability by delivering system services. The evidence can or must be provided by means of certification, depending on the voltage level. In the first step, this certification covers the generation unit and in the following step covers the generation plant itself. This means that certification of grid code compliance is directed towards generation unit manufacturers and their sales operations (unit certification) and also to investors, planners, erectors and installers of generation plants (system certification).

Certification Procedure



Examined Requirements

The requirements for generation units and plants are aimed at grid behavior during normal operation, cases of grid disturbance and also on systems services. Based on measurements, computer simulation as well as manufacturers' documentation, e.g. the following aspects are assessed:

- Active and reactive power output behavior
- System perturbation (harmonics, flicker)
- Dynamic grid support during failures (low and high voltage ride through)
- Protective devices and protection concept
- Dimensioning of the operating equipment within the plant

