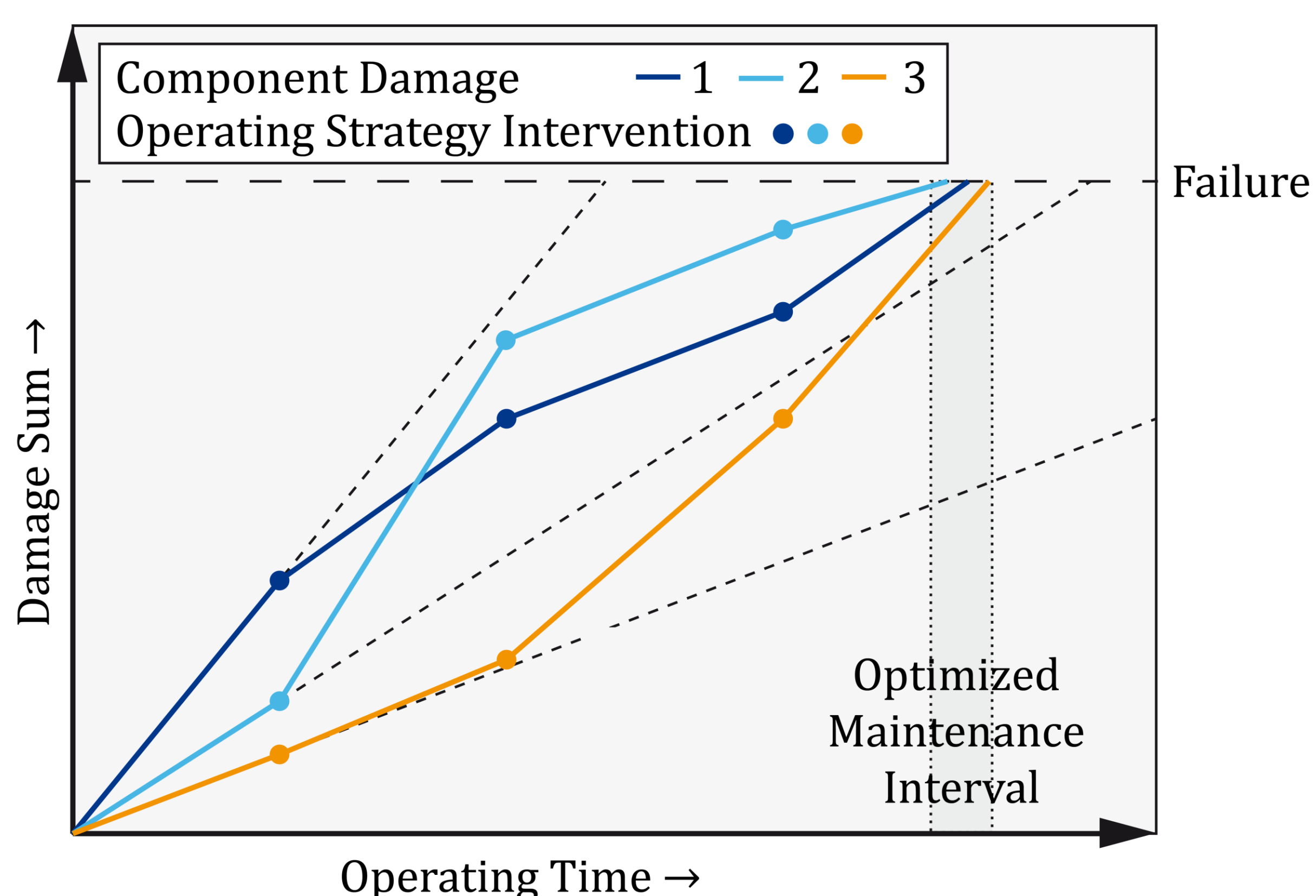


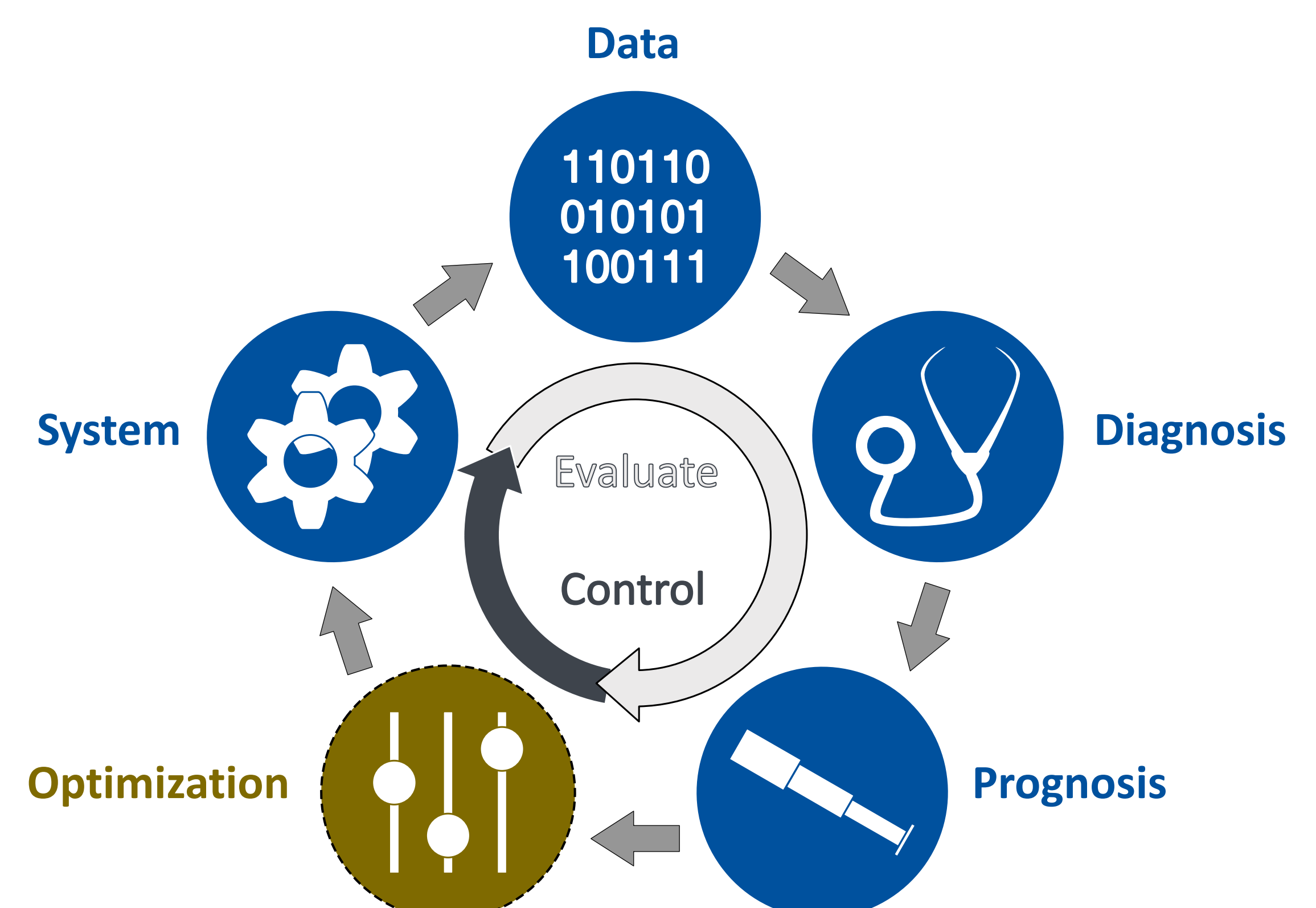
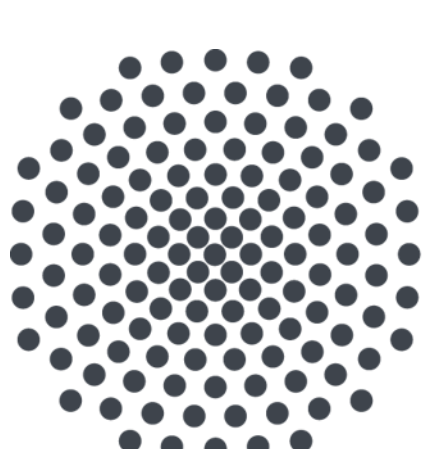
Reliability and sustainability thought together

Reliability and sustainability are sometimes seen as opposites today – if something is supposed to "last" or "work" reliably, it is still all too often oversized, which is detrimental to sustainability. This gives rise to one of the guiding questions:
How can the linking of reliability and sustainability goals be realized with consideration in an optimal operating strategy?



Further central aspects are:

- Identification of the influence of the topology and location of the actuators on the usability and load-bearing capacity of an adaptive structure
- Development of technical concepts to ensure stability in the event of total failure of the actuators
- ...



Lifetime prediction and active lifetime management with predictive maintenance

In order to ensure criteria such as stability and usability in the operation of adaptive structures, the monitoring of service life and the superordinate structural properties derived from it are of central importance. For this purpose, the stresses are observed online and the health status of critical components is monitored. In addition to the visualization of critical components, this allows the realization of an optimized operating strategy. This results in maintenance- and lifetime-optimized operation while maintaining load-bearing structure reliability with optimum sustainability. Spare parts requirements and load-bearing service life influence the environmental impact, which is why this interaction is taken into account.