

PER 6:

Typically, amateur cyclists maintain an average power output between 75 W and 100 W, and pro cyclists can maintain up to 400 W, during a 1 hour workout. As the cyclist's speed increases, less torque is required to maintain the same power output. The relation is expressed as Equation 2.1 and can be used to determine the torque that would need to be applied at different wheel speeds to achieve these power outputs.

3.2 Concept Design

A general overview of the concept starts by distinguishing what falls within the Narrow System of Interest (N-SOI), Wider System of Interest (W-SOI) and the outside environment. Elements in the W-SOI are not part of the scope of the concept, yet interact directly with the proposed system during normal operation. Elements in the outside Environment may have an influence on the system, but will not be affected by the platform during normal operation. Figure 3.1 shows the boundaries between the N-SOI, W-SOI and Environment for the concept that was developed.

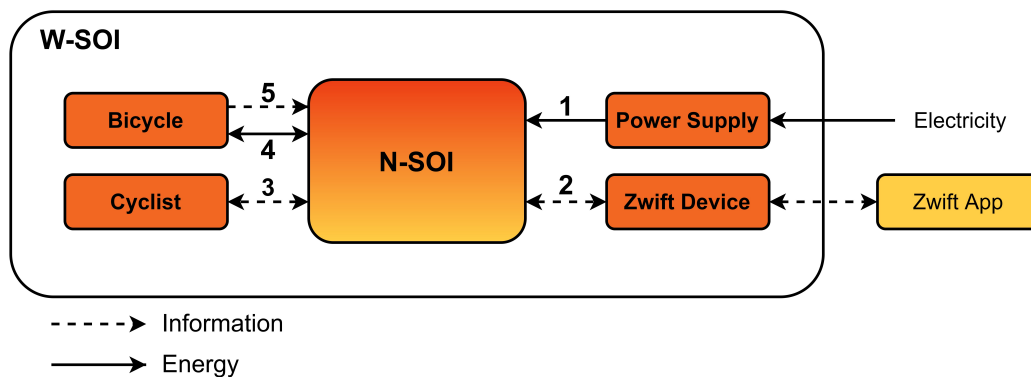
ENVIRONMENT

Figure 3.1: Concept Boundary of Interest

The interfaces between elements shown in Figure 3.1 are explained in Table 3.4, and clarified in the following subsections.