System of Systems (SoS) (glossary)

From SEBoK
system of systems (sos)

(1) Two or more systems that are separately defined but operate together to perform a common goal. (Checkland 1999)

(2) an assemblage of components which individually may be regarded as systems, and which possess two additional properties:

(a) Operational Independence of the Components: If the system-of-systems is disassembled into its component systems the component systems must be able to usefully operate independently. That is, the components fulfill customer-operator purposes on their own.

(b) Managerial Independence of the Components: The component systems not only can operate independently, they do operate independently. The component systems are separately acquired and integrated but maintain a continuing operational existence independent of the system-of-systems. (Maier 1998, 267-284)

(3) System-of-systems applies to a system-of-interest whose system elements are themselves systems; typically these entail large scale inter-disciplinary problems with multiple, heterogeneous, distributed systems. (INCOSE 2012)

Source


Discussion
e the Systems of Systems Knowledge Area in Part 4: Applications of Systems Engineering.

SEBoK v. 2.4, released 19 May 2021