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**Readability** is the ease with which a reader can understand a written text. In natural language, the readability of text depends on its content (the complexity of its vocabulary and syntax) and its presentation (such as typographic aspects like font size, line height, and line length). Researchers have used various factors to measure readability, such as

- Speed of perception
  - Perceptibility at a distance
  - Perceptibility in peripheral vision
  - Visibility
  - Reflex blink technique
  - Rate of work (reading speed)
  - Eye movements
  - Fatigue in reading
- Readability is more than simply legibility—which is a measure of how easily a reader can distinguish individual letters or characters from each other.
  - Higher readability eases reading effort and speed for any reader, but it is especially important for those who do not have high reading comprehension. In readers with average or poor reading comprehension, raising the readability level of a text from mediocre to good can make the difference between success and failure of its communication goals.
  - Readability exists in both natural language and programming languages though in different forms. In programming, things such as programmer comments, choice of loop structure, and choice of names can determine the ease with which humans can read computer program code.

**Reliability engineering** is a sub-discipline of **systems engineering** that emphasizes **dependability** in the **lifecycle management** of a **product**. Reliability describes the ability of a system or component to function under stated conditions for a specified period of time. Reliability is closely related to **availability**, which is typically described as the ability of a component or system to function at a specified moment or interval of time.

- The **Reliability** function is theoretically defined as the **probability** of success as,  $R(t)$ , the probability of failure at time  $t$ ; as a probability derived from reliability, availability, testability and maintainability. Availability, Testability, maintainability and maintenance are often defined as a part of "reliability engineering" in reliability programs. Reliability plays a key role in the **cost-effectiveness** of systems; for example, cars have a higher resale value when they fail less often.
- Reliability and quality are closely related. Normally quality focuses on the prevention of defects during the warranty phase whereas reliability looks at preventing failures during the useful lifetime of the product or system from commissioning to decommissioning.
- Reliability engineering deals with the estimation, prevention and management of high levels of "lifetime" engineering **uncertainty** and **risks** of failure. Although **stochastic** parameters define and affect reliability, reliability is not (solely) achieved by mathematics and statistics. One cannot really find a root cause (needed to effectively prevent failures) by only looking at statistics. "Nearly all teaching and literature on the subject emphasize these aspects, and ignore the reality that the ranges of uncertainty involved largely invalidate quantitative methods for prediction and measurement." For example, it is easy to represent "probability of failure" as a symbol or value in an equation, but it is almost impossible to predict its true magnitude in practice, which is massively multivariate, so having the equation for reliability does not begin to equal having an accurate predictive measurement of reliability.
- Reliability engineering relates closely to **safety engineering** and to **system safety**, in that they use common methods for their analysis and may require input from each other. Reliability engineering focuses on costs of failure caused by system downtime, cost of

spares, repair equipment, personnel, and cost of warranty claims. Safety engineering normally focuses more on preserving life and nature than on cost, and therefore deals only with particularly dangerous system-failure modes. High reliability ([safety factor](#)) levels also result from good engineering and from attention to detail, and almost never from only reactive failure management (using reliability accounting and statistics)