Redundancy, ROI & Risk in Industrial Control Systems

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Engineers are used to making financial decisions based on factual inputs and realistic assumptions. Determining whether to invest in a project using the return on investment (ROI) accounting method has long been a safe & consistent decision making tool. However, when it comes to evaluating redundancy in industrial control systems, this method doesn't hold up.

ROI is defined as: Net benefit of a project (over a set period of time) / amount invested.

A control system without redundancy will keep running smoothly under normal operating conditions. Since the extra investment in duplication does not increase the output, the ROI of redundancy is a negative value (extra output ($0) – cost($X)) / cost ($X) = -1.

The true value of redundancy in a control system is shown when a critical failure occurs and there is no loss in production, damaged to equipment or injury/death of humans.

[Continue Reading [1]]

Links:
[1] http://www.manufacturing.net/articles/2013/04/redundancy-roi-and-risk-in-industrial-control-systems