

# Energy efficiency in real-time systems: A brief overview

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As the embedded and real-time control systems become ubiquitous, with increasingly stringent requirements of smaller size, their energy efficiency emerges as a problem of key interest. In this paper we review the state of the art of energy optimization techniques from the real-time systems point of view. The survey approaches both hardware and software aspects, including the real-time hardware support, various power-saving mechanisms, battery models, real-time power-aware scheduling and dynamic power management methods. The relevant solutions found in the literature are classified and briefly presented. A comparative discussion of these methods, focusing on a set of key aspects, summarizes the survey.

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