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Electronic Security Systems
Status and Challenges with Attention to Mobile Asset Protection

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Abstract

This talk presents an overview of electronic security systems. The increasing challenges that are faced by businesses in this market to develop and utilize technology, in particular, market needs driven by national security, are reviewed.

Electronic security systems are used for access control and intrusion to protect assets. The business of supplying security is fragmented in terms of being composed of many players with small market share, moreover, and more importantly the business is changing in that *supplying security is a process — not a business of supplying a collection of components.* The creation of new processes for security is being increasingly driven by national needs — terrorism and logistics management — and is enabled by component advances and the use of rigorous model based systems engineering.

The United Technologies Corporation supplies systems for buildings, power and aerospace. Chubb is a UTC business unit that designs, sells and provides security monitoring. The technological challenges that Chubb faces are reviewed. These concern the *integration* of the "information chain," the *aggregation* of information to overcome constraints (bandwidth, cost, high false alarm rates) and the recognition of *context* for the information that is used to make decision concerning the time and nature of the response.

Mobile asset protection is of increasing importance. Most security systems in use today protect *fixed* assets. The security that is needed for situations that change modality — or *context* — present new challenges. An area of particular interest is in providing security and remote monitoring for shipping containers. Over 90% of the global shipping is now done through containers. The economic implications of the disruption to this supply chain are immense. Some specific research challenges in the area of mobile asset protection are presented.