

## 6. Multi-layer Criticality Assessment Methodology based on interdependencies

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1. **Holistic Criticality Assessment Methodology:** The paper proposes a comprehensive methodology for assessing criticality at a multi-sector or national level, aiming to integrate existing security plans and risk assessments from isolated infrastructures for sector-wide or intra-sector security risk assessment.
2. **Three Layers of Security Assessments:** The methodology defines three distinct layers of security assessments with unique requirements and goals: the operator layer, the sector layer, and the intra-sector or national layer. This structure is designed to address the varying scopes and objectives at each level.
3. **Interdependencies of Layers and Sectors:** A critical aspect of the methodology is the formal definition of interdependencies between different infrastructures and their respective sectors. This includes understanding how interdependencies act as interfaces for conveying threats and impacts across different layers and sectors.
4. **Utilization of Existing Security Plans:** The methodology aims to leverage existing security plans and assessments to provide a 'shortcut' for developing security strategies for complex, interdependent infrastructures, thus avoiding unnecessary work and duplication.
5. **Criticality Defined in Societal Terms:** Criticality is defined in terms of the infrastructure's contribution to maintaining vital societal functions (like health, safety, and economic well-being) and the societal impact resulting from the disruption or destruction of the infrastructure.
6. **Challenges of Interdependency in Risk Assessment:** The paper highlights the challenges that current risk assessment methodologies face in effectively addressing the issue of interdependencies between critical infrastructures, sectors, and their cascading effects.
7. **Need for New Risk Assessment Methods:** Given the unique nature of critical infrastructures, which are characterized by low failure probability but high consequence of failure, there is a need for new risk assessment methods that can adequately address the societal impact and the complexity arising from interdependencies.