WIDE AREA COMMUNICATION FOR PROTECTION AND CONTROL

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**Interdependencies between communication and electrical network**

**Impairment of communication quality**
- degrades performance of energy application’s control loop
- degrades power quality

**Low power quality**
- increased control overhead
- increased load on communication network

**Sample use case: Remote tripping**
- remote tripping of e.g. PV generator (Italian standard CEI 0-21)
- active distribution network
- reliable prevention of islanding
- low timing requirements

**Providing communication quality**
- Capacity of wide area links limited
- Best-effort vs prioritization
- Quality of Service through active resource management
- Integrated quality monitoring