Noise Source Identification Defined

- Definition of Noise Source Identification (NSI):
  - NSI is a generic term for a series of different measurement techniques that help visually identify noise sources on a product.
  - There are many different techniques that can be applied for identifying noises: sound intensity, sound pressure, and acoustic holography.

Different NSI Techniques

- Sound Pressure Mapping
  - Traditional SPL mapping
  - Easy, cheap
  - Parameter
- Intensity Mapping
  - Fast, high freq range
- Sound Intensity
  - Peak Search
  - Fast, easy
  - Intensity Mapping
    - Definition, results, sound power
    - Several variants
    - Acoustic Holography
      - Fast, definitive results, sound power

Why Use Intensity?

- Sound Intensity is a vector quantity that measures energy flow:
  - Directionality
  - Independent of acoustic environment
  - Can measure in near and far field

- Sound Pressure is the product of the energy radiation and the environment:
  - Room characteristics
  - Must be in far field
  - No direction