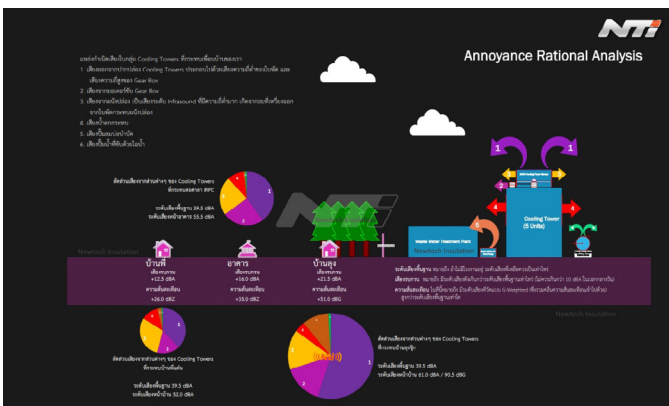


Model and Simulation

Noise Simulation Models

When faced with complex and high-cost noise problems, the selection of improvement methods must be precise and effective to solve the problem. It is beneficial if people affected by noise could see simulation models of the noise level before and after the improvement. This important step allows noise control to succeed according to the agreed plan. "Noise simulation models" are a representation of noise data such as sound pressure level and noise frequency which is used to simulate situations by choosing different noise control methods via specialized noise software. Noise simulation models help us determine whether the reduced noise level after an improvement will be as expected and stay within the provided budget.



Principle of Noise Simulation Models

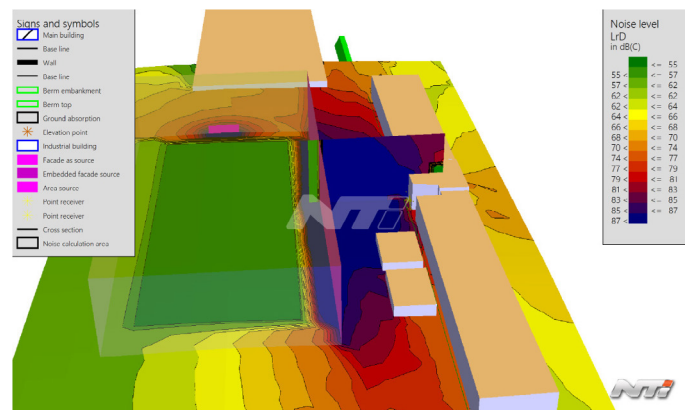
Noise simulation models are the application of mathematical principles to assess noise dispersion from the noise source, either point source, line source, or area source to see how noise dispersion is distributed and in which form. Noise simulation models use relevant data from the surrounding environment to perform calculations, such as the physical characteristics of the area, number of noise sources, noise frequency, the height of noise source, temperature, wind direction, and wind speed. Noise simulation models with high-precision must be implemented according to the simulation models standard such as EN ISO12354-3:2017 (Building-Acoustic Outside) or General Prediction Method: 2019 (Industrial Noise Standard).

"Noise Simulation Models" benefits

- Reduce the guesswork of noise pollution solutions
- Reduce disagreements between stakeholders due a lack of accurate data
- Decision-making in solving the problems with accuracy and logic
- Easier to communicate and reach understanding with those involved in solving the problem
- Save time, budget, and resources that need to be used in solving problems

Customers

- People who have suffered from noise annoyance
- Proprietors of the noise source
- Environmental or Occupational Safety and Health officers



Tools

- Integrated sound level meter IEC 61672 Class-1
- Sound calibrator IEC 60942 Class-1
- Tripods
- Noise simulation models software

Output

- Noise simulation models report and noise control approach

