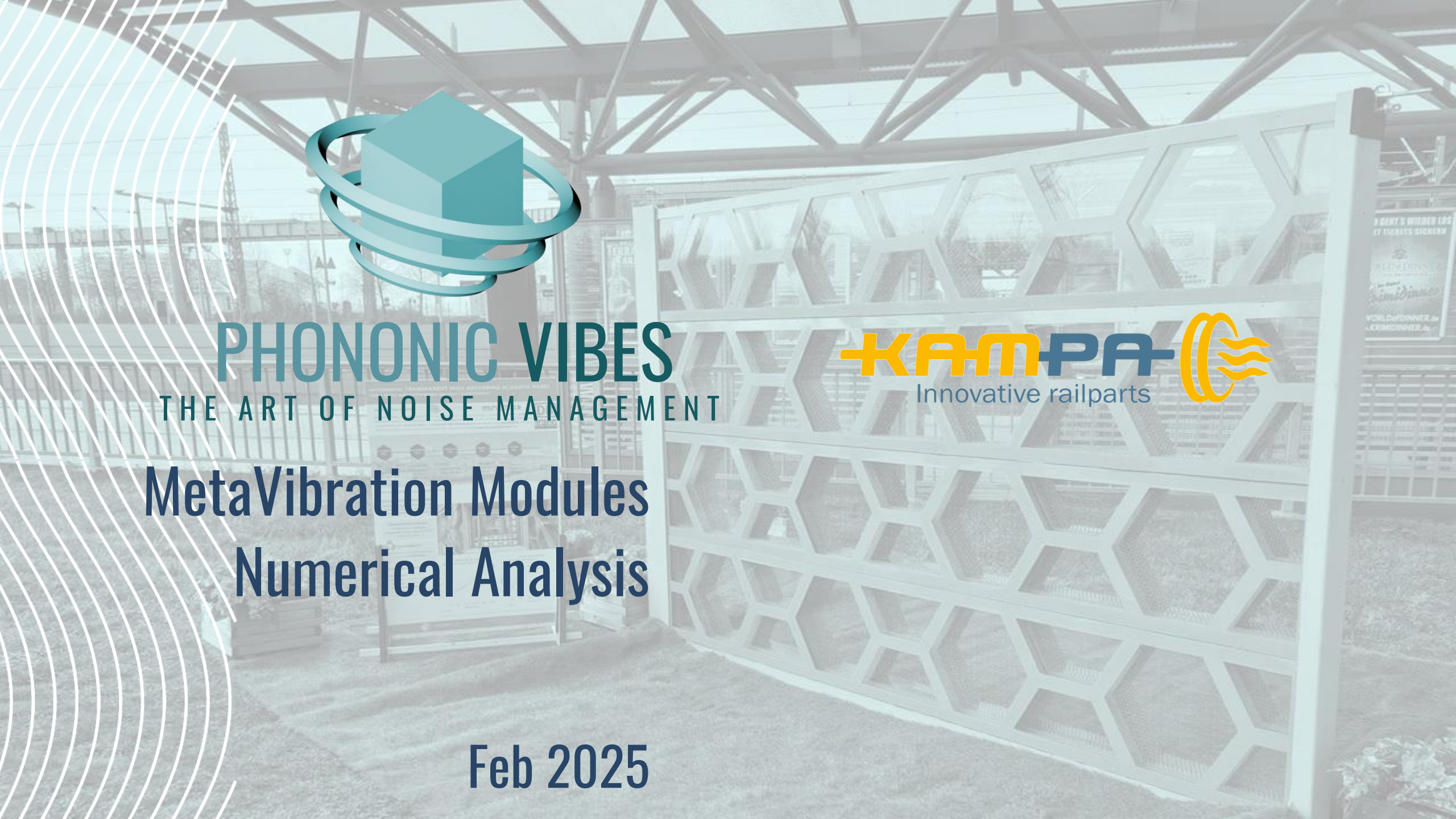


PHONONIC VIBES

THE ART OF NOISE MANAGEMENT

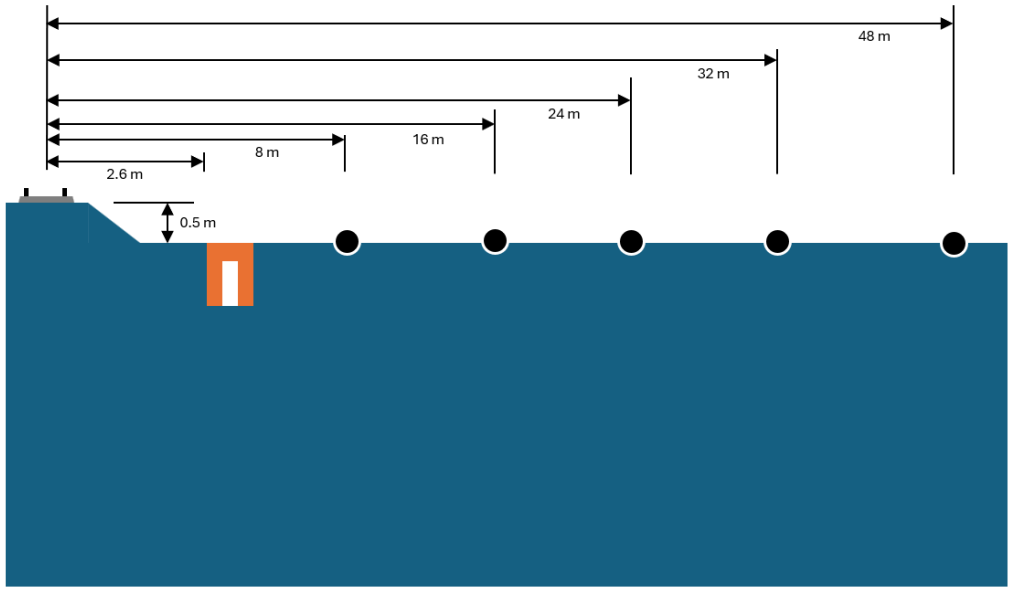
KAMPA

Innovative railparts

MetaVibration Modules Numerical Analysis

Feb 2025

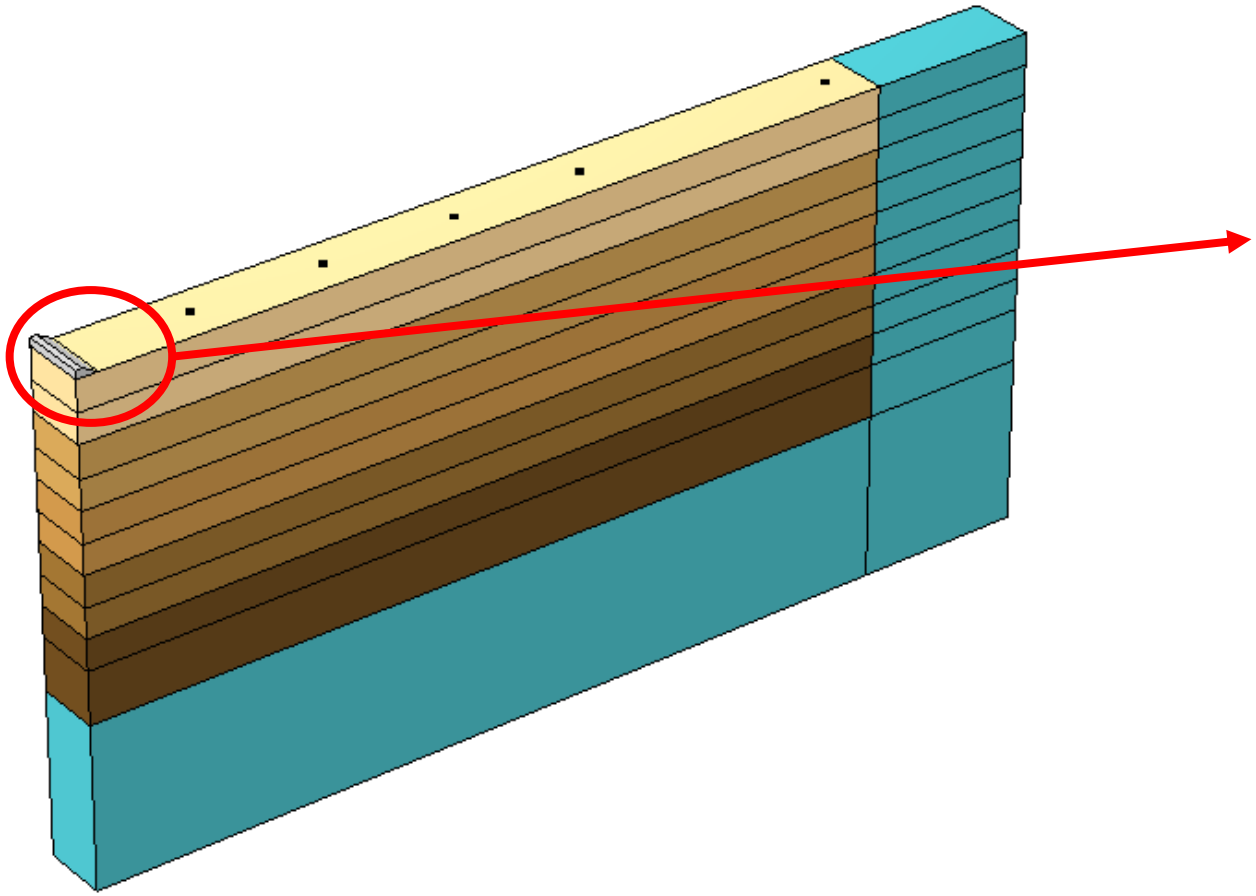
Site Overview

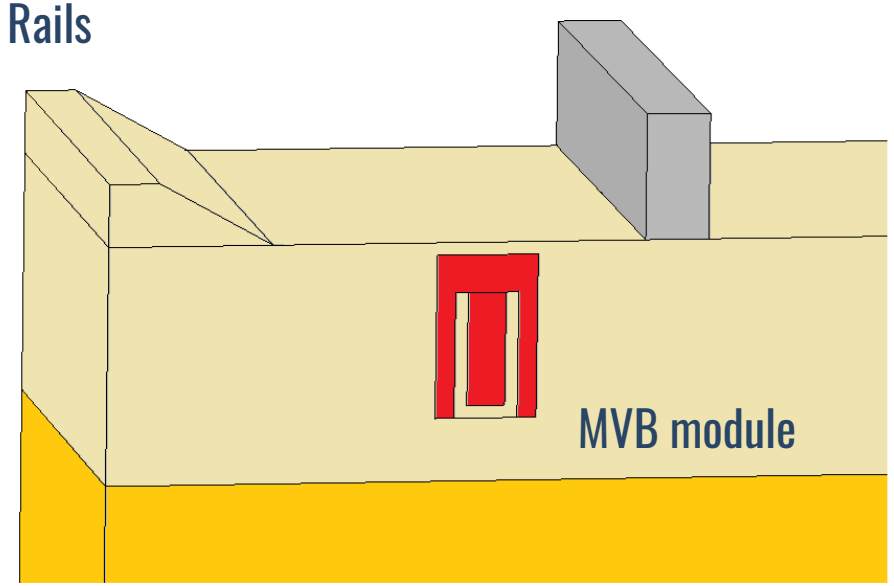


Soil properties (per layer) in the table below:

Depth (from) [m]	Depth (to) [m]	Density [kg/m3]	E-modulus [MPa]	Poissons ratio [-]	Porosity [-]
0.0	1.9	1949	1.86E+08	0.30	0.15
1.9	3.7	1967	2.19E+08	0.48	0.16
3.7	5.7	1990	2.68E+08	0.49	0.17
5.7	7.5	2037	3.44E+08	0.49	0.19
7.5	9.4	2072	4.30E+08	0.49	0.20
9.4	11.2	2014	3.43E+08	0.49	0.18
11.2	13.1	1992	4.08E+08	0.49	0.17
13.1	14.9	1896	3.14E+08	0.49	0.13
14.9	16.8	1945	3.49E+08	0.49	0.15
16.8	18.6	2065	5.83E+08	0.49	0.20

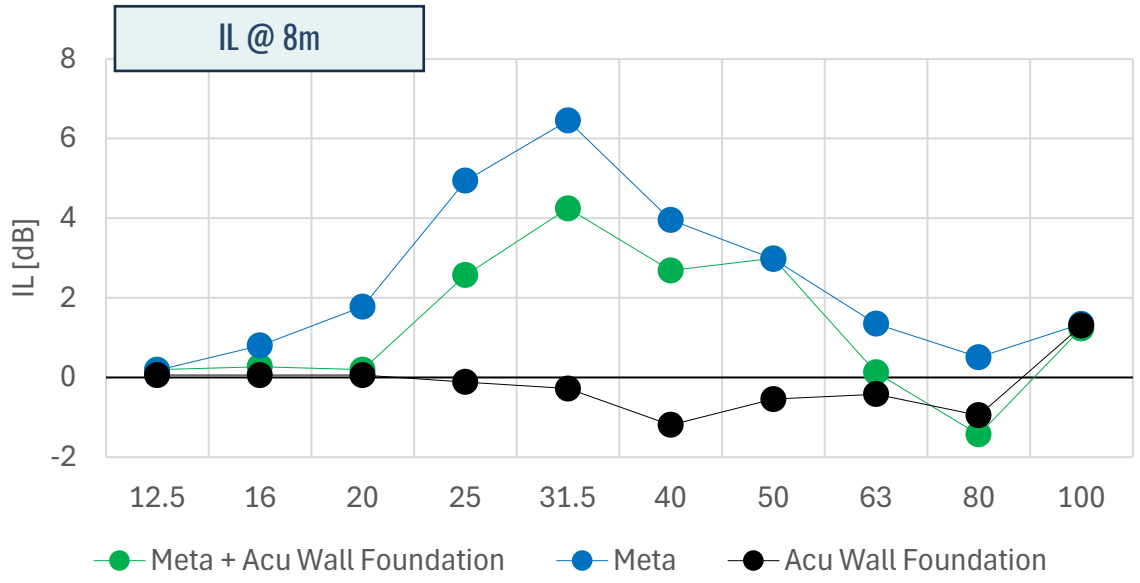
FEM Model Overview

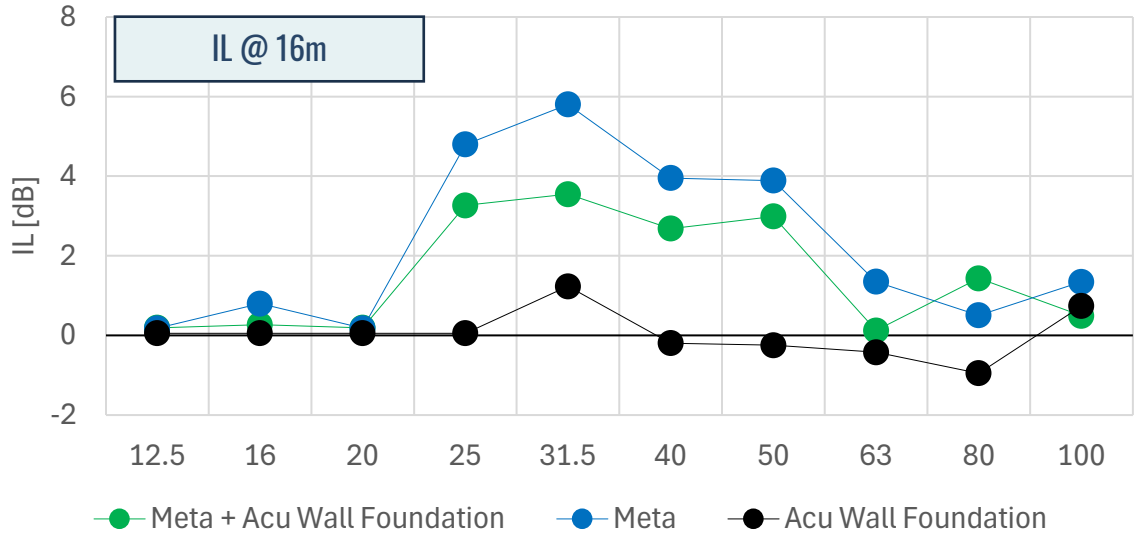


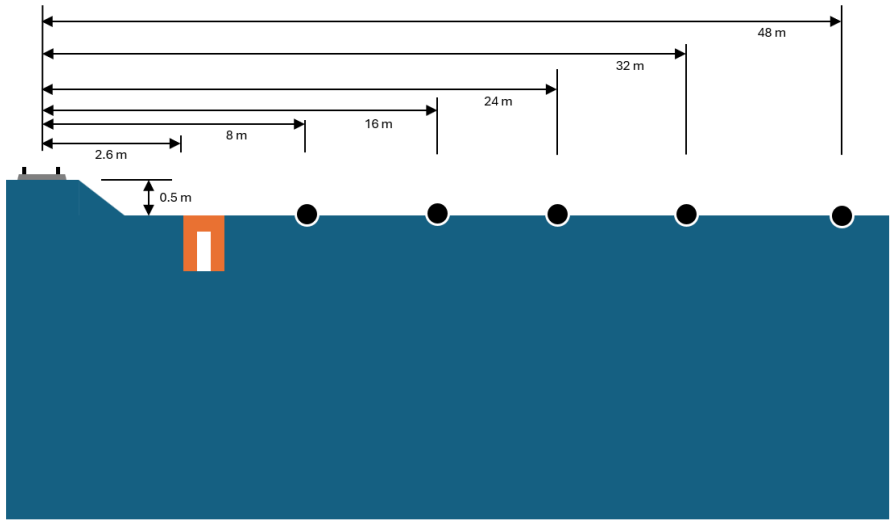


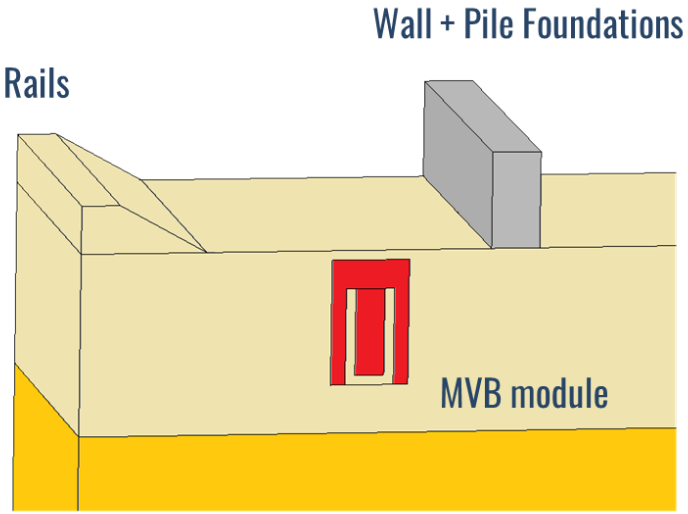
- 3D Geometry model
- The different colors represent different domains:
  - in brown different layers of terrain
  - in light blue perfectly matched layers
- Insertion Loss is calculated as: *IL = Acc baseline – Acc solution [dB]*

FEM Model Results

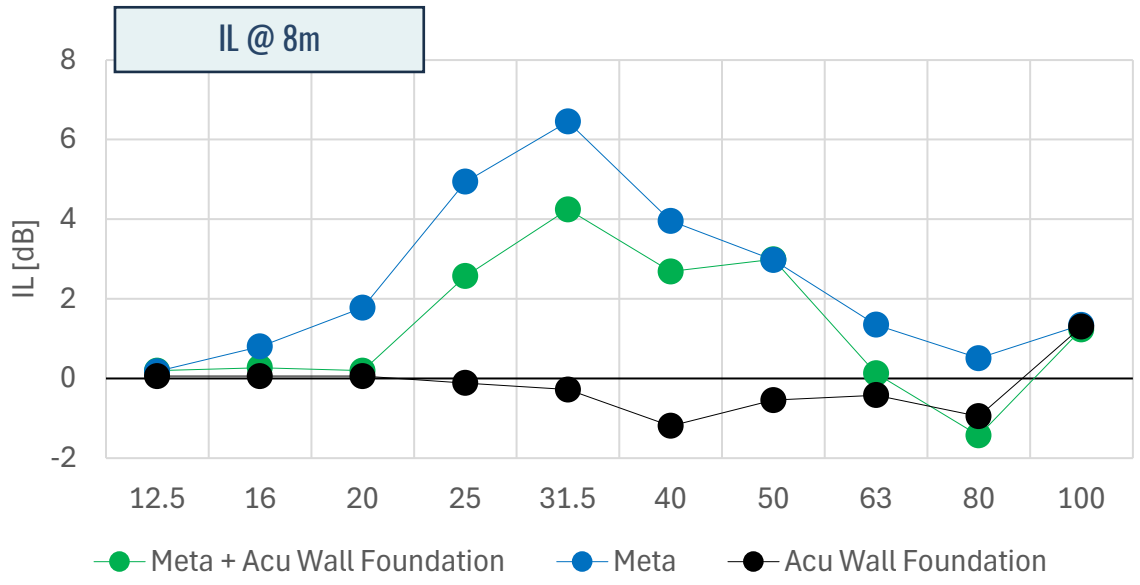


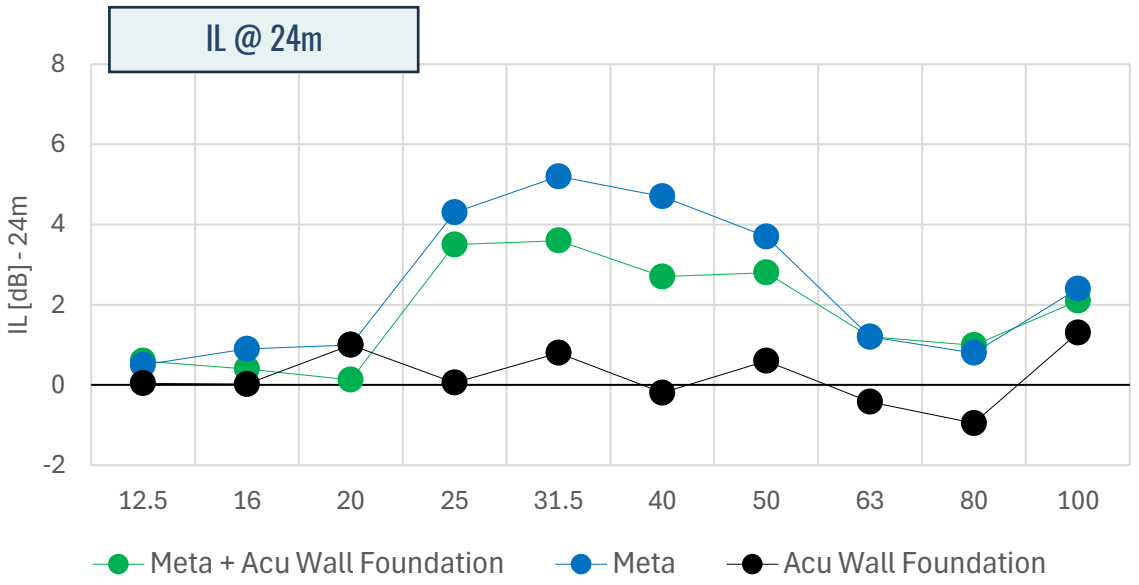


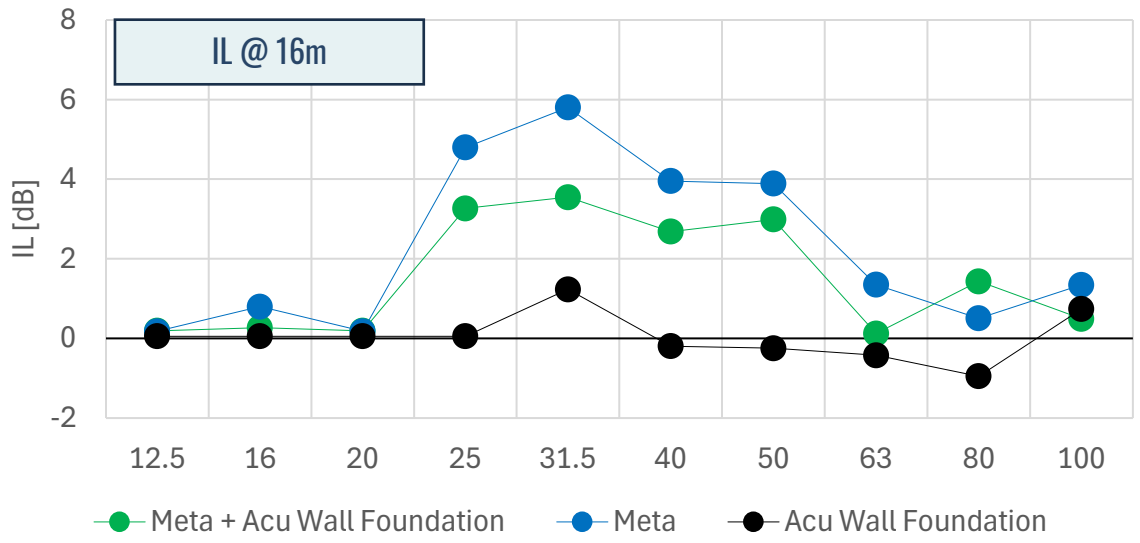


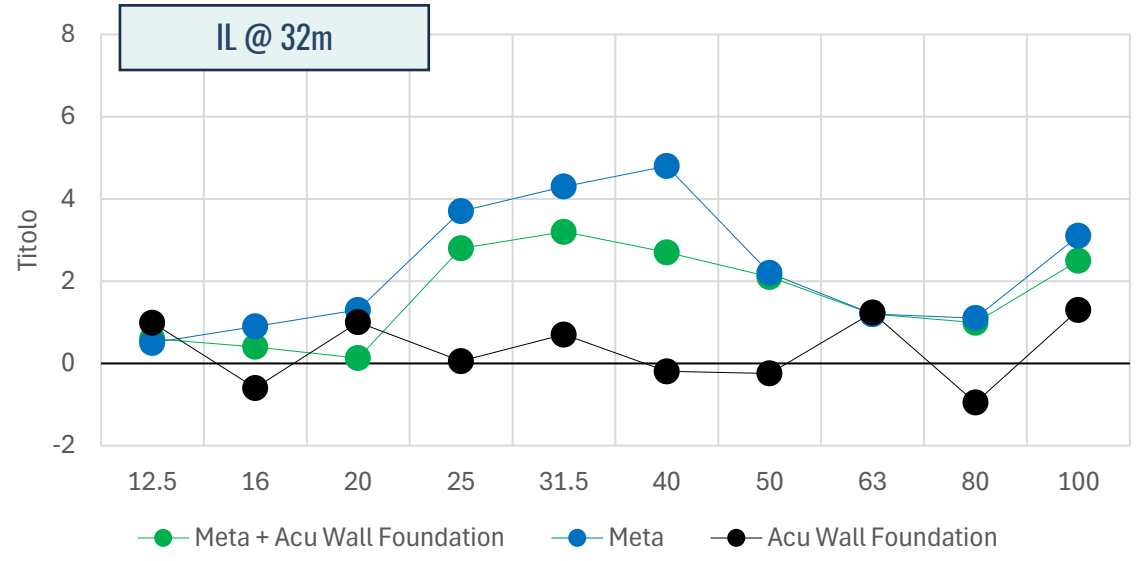


FEM Model Results









PHONONIC VIBES

THE ART OF NOISE MANAGEMENT

Thank you.

Phononic Vibes S.r.l
Sede Legale via Schiaffino, 11 - 20158 Milano
metainfo@phononicvibes.com

www.phononicvibes.com/

COPYRIGHT 2021 PHONONIC VIBES S.r.l
ALL RIGHTS RESERVED.