

# Ballistic Coefficient of a .338 caliber Lapua Magnum VLD Projectile

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## Abstract :

The study aims to validate the ballistic coefficient of a .338 caliber bullet projectile - Scenar, through a modern, sophisticated and an open-source CFD software, OpenFOAM.

Ballistic coefficients(BCs) are an essential part of studies when it comes to projectiles since it describes the ability of the projectile to overcome aerodynamic resistance during its flight. Hence, long range missiles and sniper bullets need to have higher BCs.

The simulation will be carried out at Mach 2 and a transient density based compressible solver - *rhoCentralFoam* will be used.

The results will be validated with BC claimed by the cartridge and bullet manufacturer, Lapua.

Results will also be validated with the Doppler Radar experimental tests with both - the G1 & G7 drag models, carried out by Bryan Litz, an Aerospace Engineer and ballistcian at Berger bullets.

