

This Challenge is issued under the BCIP Challenge Call for Proposals (EN578-DB1700).

Please refer to the [Solicitation Documents](#).

Challenge Name: Protecting Canada's Soldiers with lighter and more durable resistant armour

Challenge Notice: EN578-DB1701

Priority Area: Military Component

Maximum Contract Value: \$1,000,000

Challenge Sponsor: Defence Research and Development Canada (DRDC)

Background/Summary

Protection against rifle rounds is provided by hard armour systems or bullet resistant plates. The purpose of the challenge is to identify and evaluate modular, scalable, three component Bullet Resistant Plate (BRP) system prototype (the "Innovation") that can cover the range of potential threat environments that a soldier may face, while ensuring that the soldier does not carry a heavier plate than is required for any given mission.

Defence Research and Development Canada (DRDC) is Canada's leader in defence and security science and technology. DRDC provides Canada's military and national security groups with the knowledge and technological advantage to defend and protect Canada's interests at home and abroad.

Challenge Details

The aim of this challenge is to test the performance of the Innovation.

Note: The following elements of the challenge will be assessed in accordance with the Proposal Submission Form and the Evaluation Grid.

The Innovation should possess as many of the following characteristics:

- The desired minimum and maximum areal densities for the 3 modular plate system configurations (illustrated in Figure 1 below) are:
 - Module 1: 14-16 kg/m²
 - Module 1 and 2: 24-30 kg/m²
 - Module 1 and 3: 32-40 kg/m²
- The design of the Modules 1 and 2 and Modules 1 and 3 attachment systems should be sufficiently user friendly to allow field attachment/detachment of the add-on modules using tools that a dismounted soldier would already be carrying (e.g. a multi-tool) and should allow for self-alignment of the components.
- Each plate module should meet the Canadian Army Bullet Resistance Plate Technical Specification durability requirements for impact damage resistance (e.g. drop tests) and performance degradation under extreme environmental conditions.

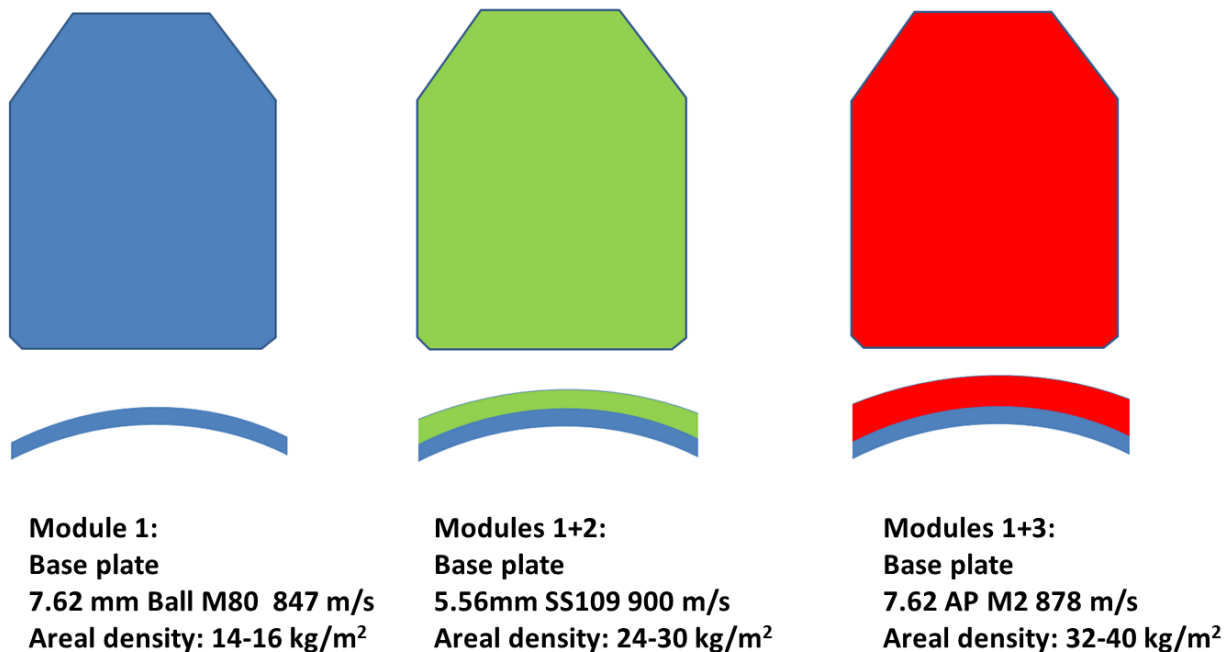
The Innovation must possess all the following characteristics:

- The Innovation must consist of 3 modular armour components. The base plate (Module 1) must be a full composite plate (i.e. non-ceramic) providing the specified level of protection against rifle bullets. The second add-on plate (Module 2) will attach on the base plate and must provide the intermediate level of ballistic resistance specified. The third add-on plate (Module 3) will also attach to the base plate (e.g. in place of Module 2) and must provide the higher level of ballistic resistance specified.
- The Innovation must provide perforation resistance and back face deformation protection against the following threats when tested in conjunction with a NIJ Level IIA vest or equivalent soft armour shoot pack:
 - Module 1: 7.62mm Ball (NIJ Level III)
 - Module 1 and 2 combined: 5.56mm SS109 (NIJ Level III+)
 - Module 1 and 3 combined: 7.62mm AP M2 (NIJ Level IV)

Innovation that possesses the following characteristics will not be considered unless they meet the lowest areal density targets quoted above:

- Innovation that cost more than 70% of the total cost to acquire separate Level III, Level III+ and Level IV fully integrated plates.

Figure 1:



Proposal

Bidders must provide technical details of the Innovation and how it meets the above targets in their proposal. The proposal submission form can be found on the [Challenge Notice](#).