

Innovative Solutions Canada Program
Challenge EN578-170003/115
Detection System for Wireless Communications

Amendment 001

This amendment is raised to modify the Challenge Notice

Delete:

Essential Outcomes

The desired outcome is a scalable solution that will detect, identify, locate and alert staff of unauthorized wireless communications within a correctional facility.

Proposed solutions must:

- Detect wireless communications within the perimeter of the institutions;
- Identify wireless devices for the purposes of requesting interruption of service from the associated Wireless Service Providers (WSPs);
- Locate wireless devices with building level accuracy;
- Locate wireless devices with cell/room level accuracy; and
- Allow authorized wireless communication to occur.

Additional Outcomes

Not applicable

Insert:

Essential Outcomes

Proposed solutions must include:

1. External module to be deployed at the perimeter of the institution. Module to detect, identify and locate all wireless devices ;

The proposed external module solution must:

- a. have an Radio Frequency (RF) sensitivity such that all cellular devices (2G, 3G, 4G and 5G) could be detected from perimeter;
 - b. provide unique cellular identification, ex: Temporary Mobile Subscriber Identity (TMSI) or International Mobile Subscriber Identity (IMSI)
 - c. be able to geo-locate at the building level all wireless devices, devices that are communicating with devices located outside the perimeter.
2. Internal module to help facilitate search and retrieve operations of wireless devices located within building of an institution;

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The proposed internal module solution must:

- a. be portable to facilitate quick and easy internal deployment;
 - b. be a wireless module with a battery autonomy of about one month;
 - c. be able to detect and locate wireless devices at the cell level, meaning with 3 meters or better accuracies;
 - d. provide unique device identification such that two RF devices can't be confused during localisation activities, for example providing unique identification: TMSI for Cellular, Mac for WIFI, etc.
3. Modules that are upgradable in order to address future wireless communication protocol changes without requiring complete or significant replacement of hardware; and
 4. Features enabling to ignore authorized wireless devices communication, for example: Cellular, WIFI, P25, etc.

Additional Outcomes

Proposed solutions should:

1. Be affordable: eventual sales price, including installation, should be less than \$250,000.00 per institution to allow for deployment through all Correctional Service Canada institutions.