

Executive project Summary

Original title as proposed for funding: « La technologie de géolocalisation au service des producteurs de porcs et des fournisseurs de service: un projet pilote ».

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Introduction

The main objective of the Quebec geobiosecurity project is to explore the potential of geolocation technologies (Be Seen Be Safe geofencing related technology + CDPQ geoguidance related technology) for the development of a collective working process to improve regional biosecurity in Quebec Beauce area.

Project Objectives

Main Objective

Explore the potential of geolocation technologies (Be Seen Be Safe geofencing related technology + CDPQ geoguidance related technology) for the development of a collective working process to improve base level regional biosecurity (green level) in Quebec Beauce area. Moreover, work carried out under this project will also make it possible to envision improved working processes that could be applied in alert situations (orange) or even a crisis period (red) in the event of suspicion or identification. a notifiable disease (e.g. African swine fever) on a farm in Quebec.

Secondary objectives

1. Collaborate with the partners of a regional PRRS control project to test and optimize the tools needed to implement collective working processes to improve regional biosecurity.

2. Develop and populate an electronic reference catalogue that will contain the identifiers and the geolocation of geographical entities essential for the implementation of a collective biosecurity working processes.
3. Develop the technological tools that will make it possible to manage and exploit the location data of the geographical entities of the places participating in a regional biosecurity working process.
4. Develop a working process and business model that will enable the sharing of data available in the electronic reference catalogue with third party information system developers working for producers and service providers.

Main project components

Field trial with the Be Seen Be Safe geofencing related technology

One of the objectives of the project is to test the technology proposed by Be Seen Be Safe, which offers an information system developed by the company, based on geofencing technology for the management of on farm biosecurity. The technology proposed by Be Seen Be Safe offers the opportunity to send a text alert on the cell phone on arrival and departure of the visitor to the person in charge of the place of production. Moreover, the system is creating an automated visitor logbook and gives the possibility to make some risk analysis. In addition, the pooling of visitor logs from a producer group or region allows tracing of people's movements, a procedure that could identify the source of certain health problems.

Development and validation of the CDPQ geo-guidance tool components

CDPQ project consists in developing and deploying a data-sharing system that allows the development of geo-guidance tools by the different service providers. The CDPQ technology will include a rudimentary application to test the tool. The main components of the CDPQ tool are:

- A cellular application to share shared geolocation identifiers (Android + Apple)
- An application for tablets that will be installed in vehicles of service providers (Android only). This application will visualize and guide the service provider to the right entity of the production site.
- A web portal for producers or their representatives to position the geographical location of the entities needed to implement the collective biosecurity strategy.

Field trial with the CDPQ geo-guidance related technology

One of the objectives of the project is to test and improve the technology proposed by the CDPQ. This technology helps guide visitors to the right places before arriving at the production site.

- Dead stock truck to the dead stock section
- Pig transporter to the loading dock
- Visitor to the visitor's parking

Development of a collective working process to improve regional biosecurity

CDPQ team, with the participation of producers and service providers in the pilot area (QC Beauce area), will develop a collective strategy to improve the regional base level biosecurity.

Information Sessions (n = 3)

Three information sessions will be made aware of this project

- Information session for the start of the test with the Be Seen Be Safe technology (September 2019)
- Mid-project information session (autumn 2020).
- End-of-project information session (autumn 2021 - to be confirmed)

Publications

Three publications (papers) in the Quebec Pork board magazine

- a publication on Be Seen Be Safe geofencing related tools and technology;
- a publication on CDPQ geoguidance tools and technology;
- a publication on collective working processes to improve the regional biosecurity;

A final report

Collaborators and partners

- Professional - research (CDPQ), Christian Klopfenstein
- Professional (CDPQ), Valérie Dufour
- Project manager - Information technology (CDPQ)
- Technician (CDPQ), Hélène Fecteau
- Professional (Be Seen Be Safe), Tim Nelson
- Professional (EPQ), Raphaël Bertinotti ou Josée Reid
- Professional (EQSP), Nadia Bergeron ou Martin Pelletier
- Professional (AQTAV)
- Professional (PRRS control group), Stéphane Laberge et Dorine Tremblay
- Analyst (CDPQ), Patrick Gagnon
- Analyst Programmer (CDPQ), Robert Doré
- Producers, at least 15
- Service providers, at least 10
- Summer student (CEGEP or University) with expertise in geomatics (summer 2019)
- Summer student (CEGEP or University) with expertise in geomatics (summer 2020)
- Student or group of students from the University Laval geomatic Department (one project 2019 or 2020)
- Others

Project funding

Money

- Programme sectoriel de développement (PDS) du MAPAQ
- Les Éleveurs de porcs du Québec
- Réseau santé Beauce (RSB)
- Participating producers

In-kind contribution

- Be Seen Be Safe (BSBS)
- Association des transporteurs d'animaux vivants (AQTAV)
- Équipe québécoise de la santé porcine (EQSP)
- Centre de développement du porc du Québec (CDPQ)

Prepared by Christian Klopfenstein for CDPQ team, July 30 2019. For up to date information you have to go to the wiki <https://geo.biosec.ca>.