Invitation Letter to BTSF National Contact Points seeking applications for BTSF training activities on
LEVERAGING REMOTE SENSING FOR PLANT HEALTH
2020 96 04 – EU SPS
Phase 1

Valid as of 28/02/2024

1. *Course objectives*

General objective

The overall aim of the training is to strengthen the knowledge on the Leveraging Remote Sensing For Plant Health. This toolkit has been developed to support Member States and third countries in planning and execution of their surveillance activities.

Specific objectives

The goal of the above-mentioned training is to gain a better understanding of how remote sensing technologies could support Plant Health management, and how to develop or procure remote sensing projects fit for their own needs.

The upcoming training workshop in Bari will focus on inspection services of national, regional or local authorities competent for the planning and execution of the pest surveys (e.g. National Plant Protection Organisations, Forestry services) and the risk managers that are involved in decisions related to the planning of surveillance activities at national, regional or local levels, including using remote sensing or other novel technologies.

2. *Training dates and locations*

One 4-day Face-to-Face training will be organised. An introductory session in the afternoon of the first day will be followed by 3 days of training. The course agenda is attached (Annex 3).

Table 1: Training dates and Location

Year	Training sessions	Course title	Locations*	Proposed dates**	Registration deadline
2024	1	Leveraging Remote Sensing for Plant Health	Bari, Italy	22-25/04/2024	22/03/2024

For organisational purposes, names of participants should be communicated at the latest 30 days before each workshop. A reminder will be sent to NCPs before each event.

Different colours should be used to differentiate different sub-topics.

3. Selection criteria for participants

Participant must:	1. Fulfil the eligibility criteria
	2. Meet the minimum requirements
	3. Be selected using the evaluation criteria

1. Eligibility criteria for Course on Remote sensing technologies for plant health
The inspection services of national, regional or local authorities competent for the planning and execution of the pest surveys (e.g. National Plant Protection Organisations, Forestry services) and the risk managers that are involved in decisions related to the planning of surveillance activities at national, regional or local levels, including using remote sensing or other novel technologies.
Only **eligible participants** should be further assessed against the minimum requirements below.

Participants must meet the minimum requirements below to ensure they can follow and fully participate in this course. Participants who do not meet the minimum requirements should not be proposed for the training.

2. Minimum requirements for Course on Remote sensing technologies for plant health	**Yes/No**
Participant must: Have at least of 1 years of professional experience as: i) a phytosanitary inspector responsible for planning and conducting pest surveys, including using remote sensing or other novel technologies; or ii) a risk manager responsible for planning surveillance activities, including using remote sensing or other novel technologies	

The evaluation criteria should be used as a tool to prioritise participation (higher score indicates higher priority), but there is no minimum score necessary.

	3. Evaluation criteria for Course 2	**Enter Score**
a)	Experience in planning and execution of pest surveys in National/Regional/Local Plant Protection Organisation Scoring less than 1 year = 0 points; ≥ 1 year = 5 points; 5 - 10 years = 10 points;	
b)	Experience in risk management of surveillance activities. Scoring less than 1 year = 0 points; ≥ 1 year = 5 points; 3-5 years = 10 points	
c)	During the course, participants will be provided with a training package to be used as support dissemination material. Commitment to disseminate the knowledge received is a prerequisite for course participation.	

	Scoring	
	1. Commitment to distribute the training material among their colleagues = 5 points;	
	2. Point 1 plus preparing and giving presentations based on the training material for the staff of national Competent Authorities/uploading training material to national Competent Authorities' intranets/websites = 10 points	
	3. Points 1, 2 plus preparing informative articles in specialised journals = 15 points	
	4. no commitment = **NO INVITATION**	
Maximum total score		**50**

4. Country allocations

A total of 30 seats will be allocated according to the tables below. Please note that the number of allocated seats for each country may vary.

Table 2: Suggested allocation for EU Member States and Candidate Countries

	Country / suggested seat allocation					
Member States	Austria	1	France	2	Malta	1
	Belgium	1	Germany	1	Netherlands	1
	Bulgaria	1	Greece	1	Poland	1
	Croatia	1	Hungary	1	Portugal	1
	Cyprus	1	Ireland	1	Romania	1
	Czechia	1	Italy	2	Slovakia	1
	Denmark	1	Latvia	1	Slovenia	1
	Estonia	1	Lithuania	1	Spain	2
	Finland	1	Luxembourg	1	Sweden	1
	Total Member States					
Candidate Countries	Albania	0	North Macedonia	0	Türkiye	0
	Bosna and Herzegovina	0	Serbia	0	Ukraine	0
	Montenegro	0		0		
	Total Candidate Countries					*0*
Global participation EU Member States and Candidate Countries						*30*

You are welcome to nominate more participants for the reserve list than indicated in the table above. If seats will become available you will be informed in due time.

5. *Face-to-face logistical arrangements*

In the case of face-to-face training sessions, the European Commission will fund in full the visa, travel, accommodation, meals, and field visit costs for all training participants. No daily allowance will be paid on top of this. Any other costs are to be paid by the participants themselves.

Participants will arrive at the training venues on Monday morning and training will commence on the afternoon of day 1 in the afternoon (depending on travel connections, participants may be requested to arrive at the training venues on the evening before). Return travel will be on the day 4 in the according to flight connections.

The contractor OPERA team will liaise further with the nominated participants for all logistics and practical aspects.

Annex 1: Background and main topics covered in training

Background

The interest in the use of remote sensing for Plant Health is growing rapidly. DG SANTE funded a project, implemented by the Commission's Joint Research Centre (JRC), investigating the use of remote sensing to support the implementation of the EU measures against the Pine Wood Nematode in Portugal; the Horizon 2020 projects POnTE and XF-ACTORS have dedicated remote sensing work packages in the framework of the *Xylella* control strategy; Euphresco recently funded the project Applications of Remote Sensing in Plant Health (PHeRS) and dedicated a colloquium to the theme; and EFSA is funding a project on image analysis for early detection of quarantine plant pests.

However, uptake of remote sensing technologies in NPPOs is still limited. This training aims to catalyze such uptake by providing hands-on training on remote sensing methods relevant to Plant Health to NPPO staff and their colleagues familiar with Geographical Information Systems (GIS) and Earth Observation. Ultimately, the goal is for NPPOs to gain a better understanding of how remote sensing technologies could support their work, and how to develop or procure remote sensing projects fit for their own needs.

The training will be centered on the specific needs of NPPOs in performing plant health surveys, or responding to pest outbreaks (Part 1). More technical aspects of remote sensing (both data and processing in Part 2) will be presented in function of these needs, in order to make them palatable also to non GIS-specialists. The training will then move to hands-on use of remote sensing data (Part 3), both in a computer environment and in the field.

Main topics covered in the training

- Challenges faced in plant health management, and exploring how remote sensing can help face them
- Different remote sensing platforms and the mechanisms for data processing and use
- Practical examples already used by Member States
- Practical use of remote sensing in the field
- Obtaining the right type of data

Annex 2: Legislation and guidance

Regulation (EU) 2016/2031 of the European Parliament and of the Council on protective measures against pests of plants, amending Regulations (EU) No. 228/2013, (EU) No. 652/2014 and (EU) No. 1143/2014 of the European Parliament and of the Council and repealing Council Directives 69/464/EEC, 74/647/EEC, 93/85/EEC, 98/57/EC, 2000/29/EC, 2006/91/EC and 2007/33/EC.

This Regulation establishes rules to determine the phytosanitary risks posed by any species, strain or biotype of pathogenic agents, animals or parasitic plants injurious to plants or plant products and measures to reduce those risks to an acceptable level.

Specific provisions are laid down as regards quarantine pests. As a general rule, a European Union quarantine pest shall not be introduced into, moved within, or held, multiplied or released in, the Union territory. To this end the Commission shall establish a list of pests which fulfill the conditions of quarantine pests listed in article 3. Further specific provisions regard «priority pests» (those whose potential economic, environmental or social impact is the most severe in respect of the Union territory) and Union quarantine pests used for official testing, scientific or educational purposes, trials, varietal selections or breeding.

Detailed rules are laid down as regards notification procedures in case of imminent danger, measures to be taken immediately by professional operators and others. For eradication, provisions are set out concerning demarcation of areas; surveys and modifications of demarcated areas and lifting of restrictions; protected zone quarantine pests. Chapter IV is devoted to measures concerning plants, plant products and other objects. Certain plants, plant products or other objects shall not be introduced into the Union territory if they originate from all or certain third countries or territories. The Commission shall adopt a list containing those plants, plant products and objects which are prohibited from being introduced into the territory of the Union, together with the third countries, groups of third countries or specific areas of third countries to which the prohibition applies.

Annex 3: Agenda

BTSF PROGRAMME

22ND -25TH APRIL 2024 BARI, ITALY

Proposed programme:

Time	Topic	Tutor
DAY 1- 22 April		
13:45	Registration of participants	Event manager
14:00	Welcome addresses, course background, objectives & expected results	Training coordinator
14:45	Preliminary discussion with participants, aimed to gauge their expectations of the training initiative	**Training Coordinator and** the team of tutor participants
15:00	Better Training for Safer Food Initiative presentation	Event Managers
15:15	Self-assessment test	Event Managers
15:30	Introduction from EC representative and short overview of the new legal framework of **Regulation (EU) 2016/2031**	DG SANTE, Plant Health
16:00	Coffee break	
16:30	**Interactive session (Part 1): Understanding the needs** The training will start by discussing challenges faced in plant health management, and exploring how remote sensing can help face them. The challenges will be grouped under: a. Preparedness - e.g. mapping the distribution of host plant species b. Survey - e.g. early detection of potential symptoms of heightened susceptibility or infection c. Monitoring of implementation (e.g. tree felling) d. Linking remote sensing analyses to field surveys and laboratory analyses (which acknowledges that remote sensing technology will support, rather than replace, current approaches used in the field and laboratory). Through guided discussions, the participants will spell out the needs, criteria and information on what remote sensing products should address in order to support NPPOs in their surveillance activities. The tutor will guide participants through an exchange of views on their own experience in using remote sensing and by replying to the following questions: 1) what do you typically want to measure? 2) how often do you need to measure it? 3) how big is the scale you typically need to measure over? 4) what are the meaningful measurement units?	**Tutor**
18:00	End	
19:30	Welcome cocktail	

DAY 2- 23 April		
	What does remote sensing offer?	
8:30	**Lecture (Part 1): Different remote sensing platforms and the mechanisms for data processing and use.** - satellites - aircraft - drones In this lecture, the major, relevant, remote sensing platforms and sensors will be explained. The lecturer makes reference to the criteria spelled out in the previous discussion to show which setups could meet which needs (in terms of resolution, extent, frequency, information, etc…). The concept of "Technology Readiness" is introduced, distinguishing between methods that are operational, those that are cutting-edge research, and the steps needed to bridge the two.	**Tutor**
10:30	Q&A	
11:00	Coffee break	
11:30	**Lecture: Practical examples already used by Member States** NPPOs share their experience (15' each) in the use of remote sensing and drones in their day-to-day work, through a presentation and an extend Q&A session.	*Member States are invited to nominate a speaker!* Speaker A (Portugal) Speaker B (Spain) Speaker C (Netherlands) Speaker D (Italy)
	Q&A	
13:00	**Lunch**	
14:30	**Lecture: Working with data** In this 'practicum', participants, in small groups around PCs, get to navigate and query remote sensing data of vegetation in the area nearby the training venue. More experienced GIS users are paired with less experienced ones. The remote sensing data should include very-high-resolution images. These images, functioning as a high-resolution map, will help organize the field sampling, indicating for example which areas are more or less accessible. The remote sensing data should also include tree-level health indicators derived from the images. These indicators should help organize prioritize the field survey, indicating which trees are particularly worth sampling.	**Tutor** **3 groups:** - **drone 1 (Nikola)** - **drone 2** - **phone app + in person assessment** **Need for background on skills**
16:00	Coffee	
16:30	**Lecture:** Working with data (continuation)	
17:30	Q&A	
18:00	End	

DAY 3 – 24th April			
	Practical examples		
8:30	**Departure from the hotel**		
09:00	**Introduction to the field exercise and short coffee break**		
09:30	**Fieldwork near the campus** This section will be conducted in the field, in an area with trees, e.g. an olive or almond orchard to simulate a *Xylella fastidiosa* outbreak, a pine forest to simulate a Pine Wood Nematode outbreak, or an Ash forest to simulate an outbreak of Emerald Ash Borer. Participants will use their own mobile device to collect data using a dedicated application that also serves remote sensing information. This remote sensing information is the one processed by the participants the previous day. JRC will provide a prototype application to use in this part of the training.	**Tutor**	
12:30	**Lunch**		
13:30	**Which systems could meet my needs?**		
14:30	**Group exercise**: Based on the advantages and disadvantages of different platforms and sensors, participants, divided in groups, will be challenged to study which systems could meet the criteria each participant has specified in Part 1.	**Tutor**	
16:00	Coffee		
16:30	**Presentation of the results of the group exercise**		
17:30	Q&A		
18:00	End		

DAY 4- 25th April		
	From training to practice	
9:00	**Lecture: Getting the right data for the right needs** The lectures gives some suggestions on where to start and what to consider. This section will demonstrate access to existing data from satellites (Copernicus) and aerial image archives, and new data acquisitions (which includes buying commercial satellite data, photogrammetric companies, academia, scheduling aerial imaging campaigns, gis analysts, back end developers to bring data together.	**Tutor**
10:30	Coffee break	
11:00	**Lessons learnt and take home messages**	Commission's Joint Research Centre (EU)
12:30	Lunch	
14:00	End	
	Travel to airport for participants who have an early afternoon flight	

Annex 4: Training material, outcomes and dissemination activities

Training material

All participants will receive the training material well in advance of the training.

All participants will receive a Dissemination Kit electronically to enable them to actively disseminate course knowledge upon their return from BTSF training. Participants attending face-to-face courses will receive the information on the USB key.

Training material in your language

By registering for the BTSF ACADEMY all course participants will have the possibility to translate all the information and training materials in the BTSF ACADEMY, including this course, into 22 European languages. Information and training can also be viewed in additional languages using the automated translation features of common web browsers. This feature is accessible via the languages selector on the BTSF ACADEMY home page. It allows users to:

•   Access the content of the BTSF ACADEMY translated to EU MS official languages

•   Download documents in a translated version and the original language version to compare formatting/original meaning

•   Follow the training activities more comfortably

•   Improve their understanding of the topics related to their area/s of work

•   Disseminate their acquired knowledge

•   Use the materials to train other colleagues in their organisation

•   Draft additional training material based on the available information translated into their language/s.

Whilst not perfect, the eTranslation service is continuously improving. The BTSF ACADEMY Team will keep working to ensure the maximum compatibility of the original content and to extend accessibility to a wider audience.

Those users interested in the eLearning modules in their own language in the BTSF ACADEMY and viewing the platform in additional languages to the eTranslation option, should follow the instructions in the ACADEMY home page here.

Dissemination Kit

This contains the following training materials:

•   All course presentations

•   Study notes on field trips and group activities/discussions and conclusions thereof

•   The course syllabus

•   The training information sheet

•   Glossary of terms and abbreviations used in the course

•   Additional references for further study

•   Written guidance on how to actively disseminate course knowledge to colleagues upon participants' return to their home countries, different methodologies/examples/best practice

•   Other information and material delivered at the course such as quizzes, FAQs etc.

Dissemination questionnaire

Two to three months after the respective training session, participants will receive a standard questionnaire requesting information on the dissemination activities of the participant after the training, and details on differences in the approach adopted in day-to-day work following the training.

Self-assessment test

Furthermore, the programme will include an anonymous knowledge test to be carried out at the beginning and at the end of each training session in order to measure the impact of the training on the understanding of the participants of the subjects taught.

Participants are expected to agree to carry out the above tests and to reply to the surveys and questionnaires.

For Face to Face and Virtual Classrooms

By participating in the training, participants agree to:

- be registered in the BTSF Academy

- provide the details requested by the contractor to register in the BTSF ACADEMY (including the provision of requested Commission EU Login details including the (Unique Identifier at the Commission - uid) -instructions on how to do this will be supplied . Please note participants who do not provide details as requested will NOT be able to register in BTSF ACADEMY and **will NOT receive a certificate of participation**.

- attend a group photo of the participants and tutors at the end of the training session. Photographs will be published in the BTSF Academy in the corresponding training course section and will be visible only to registered users of the BTSF ACADEMY.

- give their permission to be filmed, should this be required. At least one session of every series of workshops/videoconferences must be recorded. Videos and photo will be published in the BTSF Academy in the corresponding training course section and will be visible only to registered users of the BTSF ACADEMY.

Please find more information regarding data protection here:

https://btsfacademy.eu/training/mod/page/view.php?id=417

Annex 5: Contractor contact details

The Project is managed by: OPERA

Project Manager: Claudio BOMPARD

Training Coordinator for Course: Koen HUFKENS

Separate notifications will be sent to National Contact Points for each course and will contain the names and contact details of the Event Manager and Assistant Event Manager as well as logistical details on the event.

All official communication between National Contact Points and the project will be maintained through the functional e-mail address **20209604eusps@btsftraining.com**.

All information on BTSF training can be found on the BTSF Academy website. The Academy website will be regularly updated with details of forthcoming courses.