

Monitoring of Exotic Mosquitoes in Belgium: The citizen surveillance component

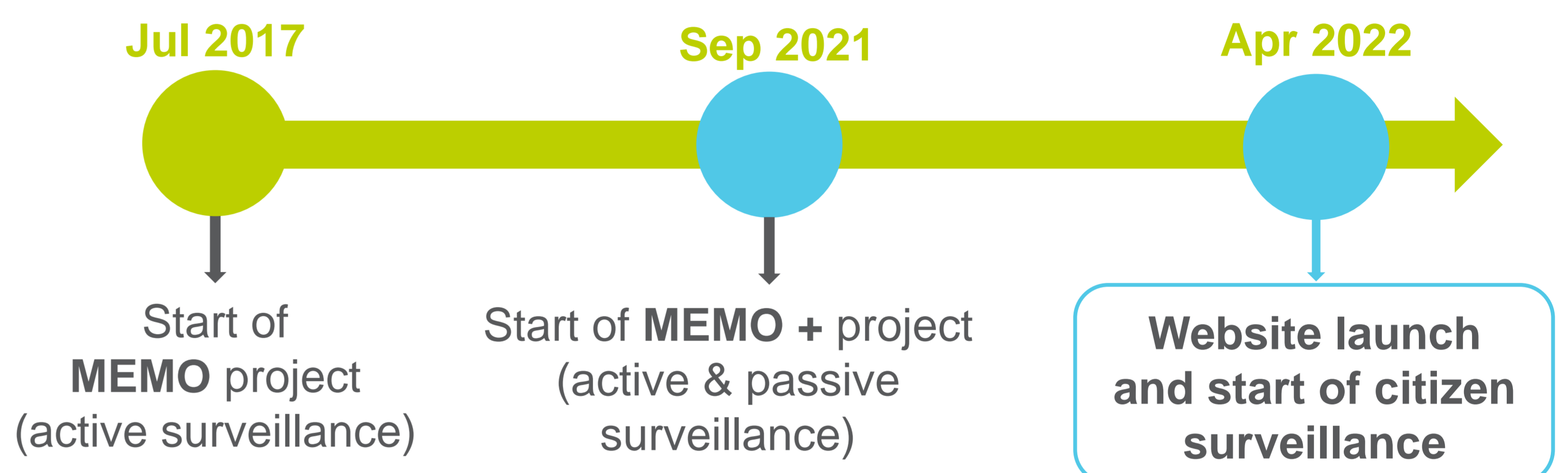
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Monitoring of Exotic Mosquitoes (MEMO+)

- Monitoring exotic *Aedes* mosquito presence across Belgium through
 - Passive surveillance (*Sciensano*)
 - Active surveillance (*Institute of Tropical Medicine*)
- Early detection and delay establishment of the tiger mosquito (*Aedes albopictus*)
- Enhance and improve public knowledge on mosquitoes, mosquito-borne diseases (MBDs) and prevention

The early detection of exotic mosquito species (EMS) along high-risk introduction routes before they become established is of paramount importance to prevent local transmission of MBDs. In July 2017, an active surveillance system was set up at 23 points of entry (MEMO project). In September 2021, the MEMO+ project was launched with the goal to broaden mosquito monitoring by integrating passive surveillance for *Aedes* EMS monitoring through a citizen science approach. This poster introduces the citizen surveillance system.



Methods

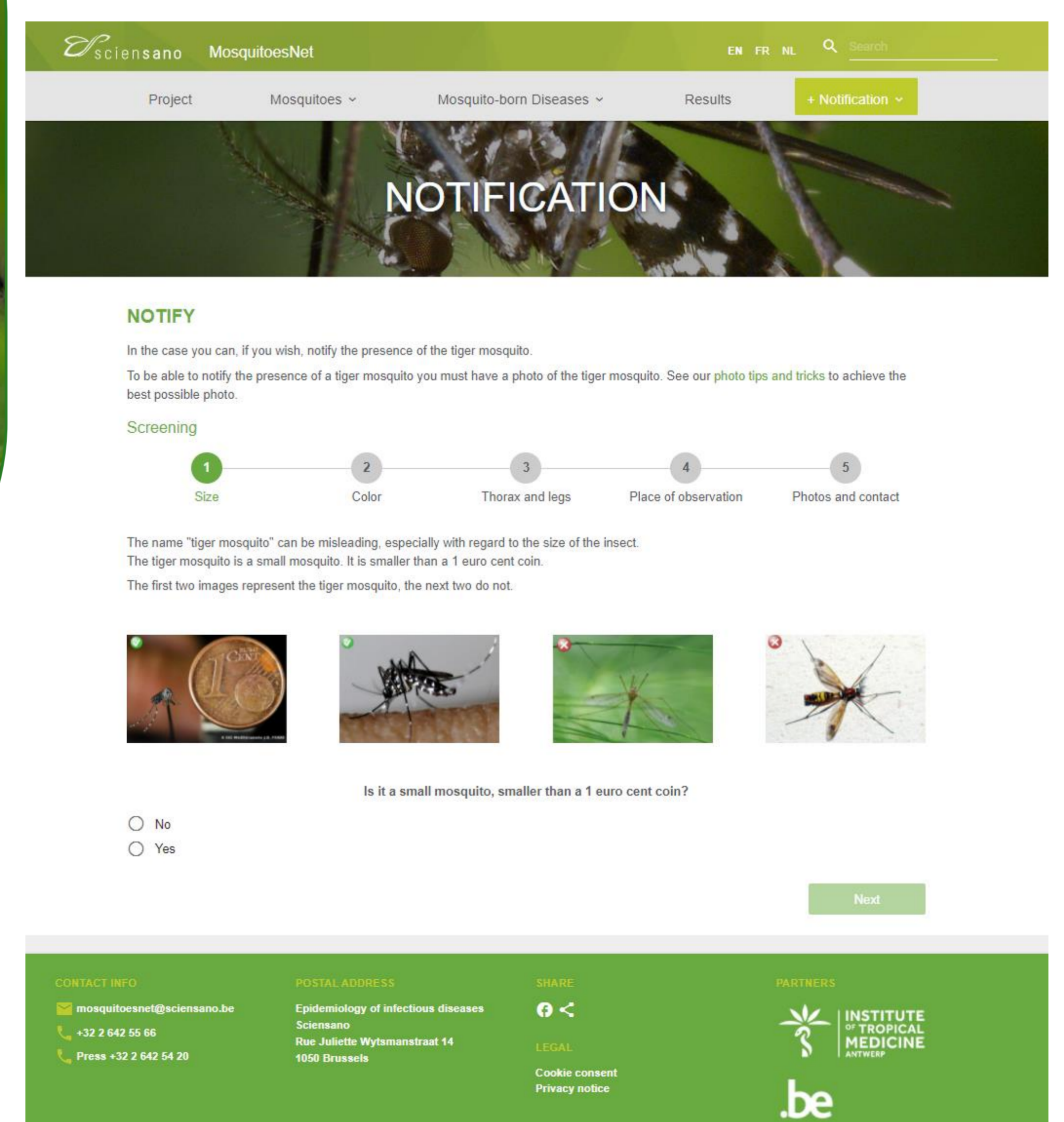
- Development of a website for the notification of *Aedes albopictus* mosquitoes:
 - Information tool for citizens:** on mosquito life cycle and biting behaviour, prevention and MBDs
 - Notification of spotting potential tiger mosquitoes** by uploading pictures
- Picture validation
 - Screening step: filtering questions
 - Geolocation and contact details collection
 - Validation step: morphological identification of picture submitted
- Pictures verification
 - ✗ Negative: inform the notifier
 - ? Unclear: request more pictures
 - ✓ Positive: Contact notifier and collect geolocalisation and more information

Challenges

- Passive surveillance reliant on citizen participation:
 - ✓ Ensure a good communication
 - ✓ Keep involvement during the whole mosquito season
- Unpredictable number of notifications
- Detection of *Aedes albopictus* and subsequent vector control strategy



Website



Outcomes & Public Health Impact

- Early detection** of the introduction of the tiger mosquito in Belgium and **opportunity to delay establishment**
- Prevention of (tiger) mosquito-borne disease** outbreaks, including dengue, Zika, chikungunya
- Improve **population knowledge and awareness** of mosquitoes and MBDs

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