

# PHOTONICS FOR THE ASSESSMENT OF TABLE GRAPE RIPENESS

THE SUCCESSFUL CASE OF THE FIRST PHOTONICS ROADSHOW



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16 - 17 May, 2019 / Barcelona. New Technologies in agriculture & food industry

# TIMELINE





**AMERICAN  
FARM SCHOOL**



## PROBLEM

Harvest time of  
Crimson Seedless cv  
at the appropriate  
stage of ripeness

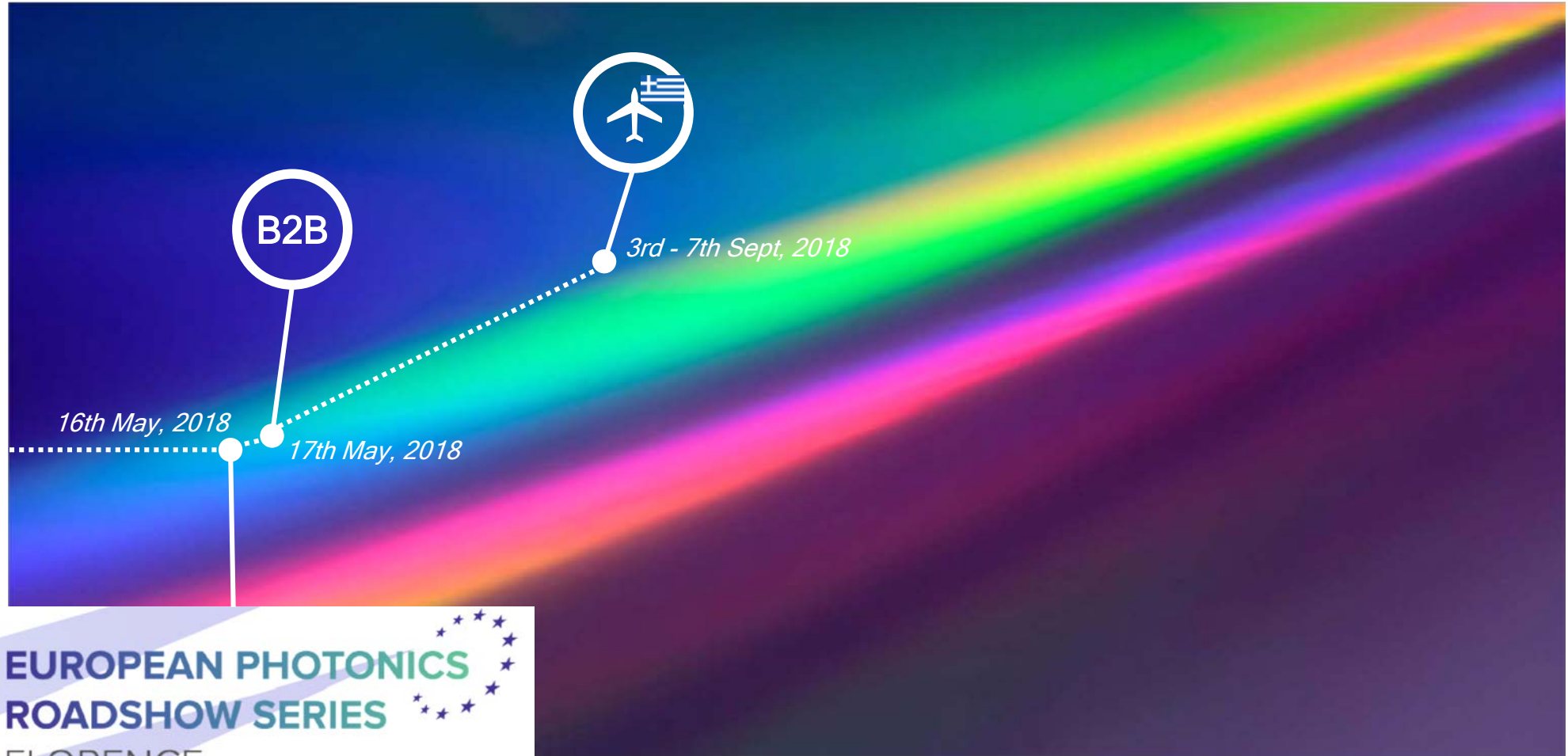


## SOLUTION

Non-destructive  
assessment of  
ripeness by portable  
fluorescence sensors



# TIMELINE





# RIPENESS ASSESSMENT

GPS

Phenolic  
maturity

Technological  
maturity

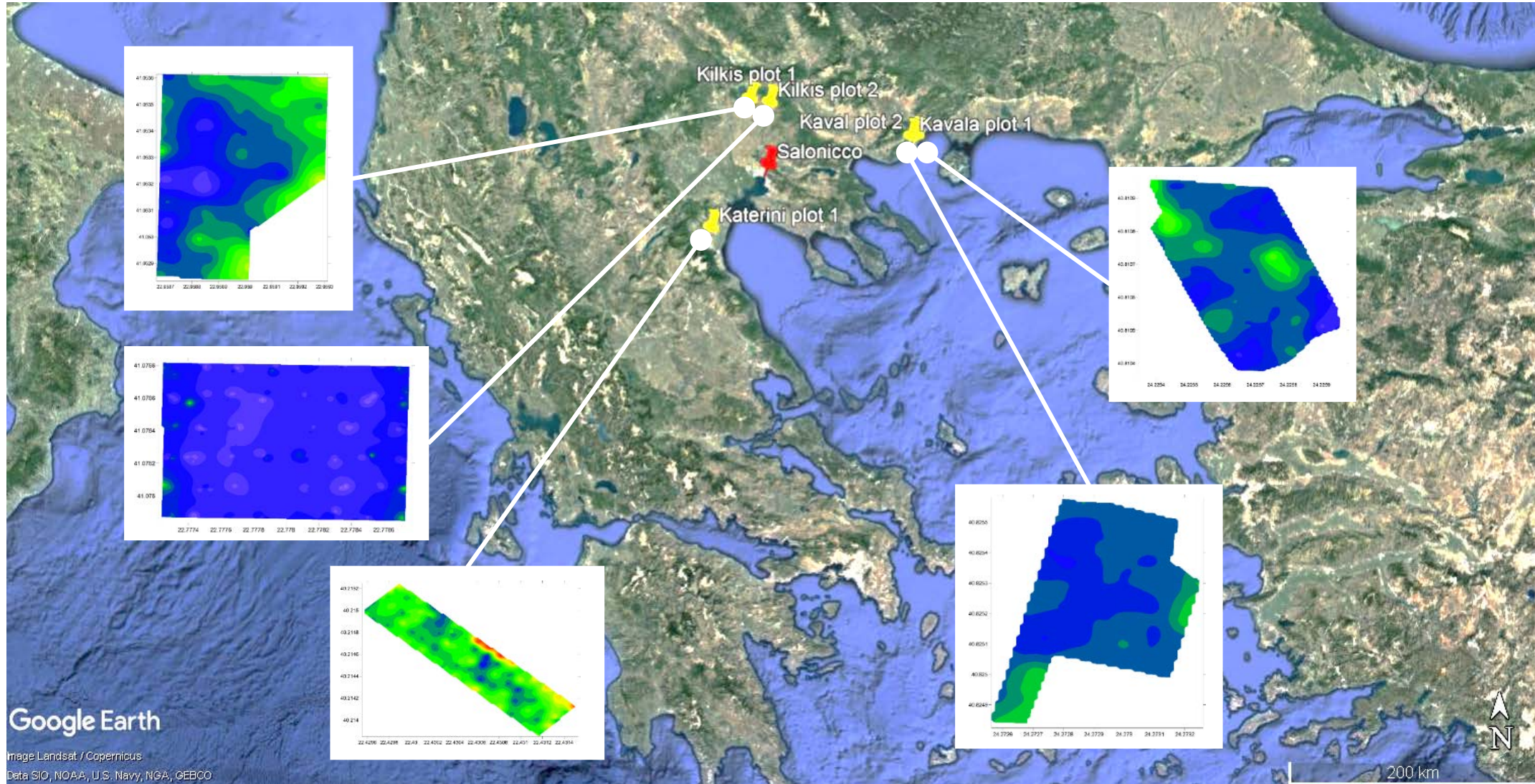
Bioactive  
compounds





# RIPENESS COMPARISON

Colour index



Google Earth

Image Landsat / Copernicus  
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

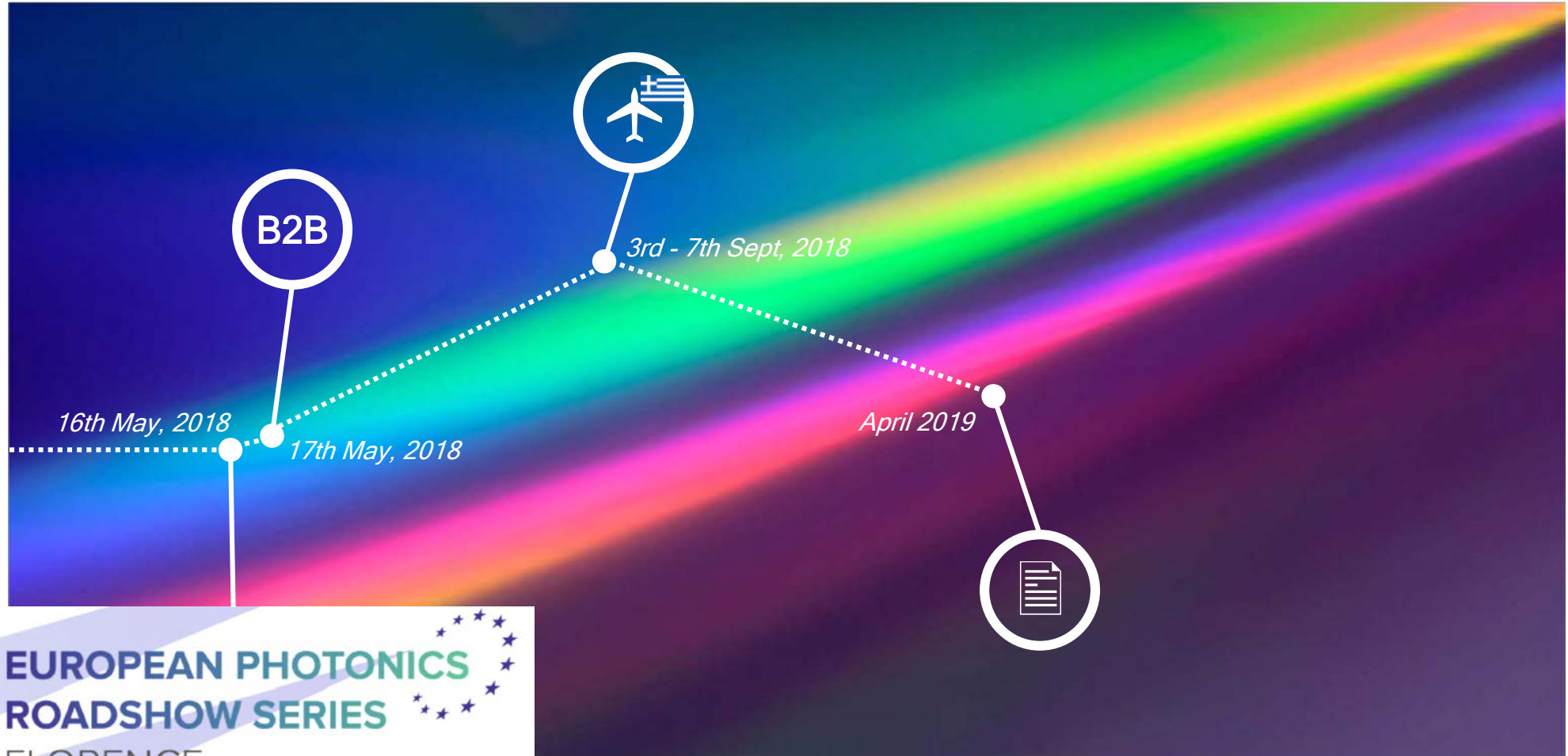
# RESULTS



- ✓ Demo of the use of the sensor
- ✓ Identification of the areas (intra and inter-plots)  
from the higher to the lower ripeness
- ✓ Comparable levels of ripeness by objective optical  
indices



# TIMELINE





# COLLABORATION AGREEMENT FOR SCIENTIFIC COOPERATION



AMERICAN  
FARM SCHOOL

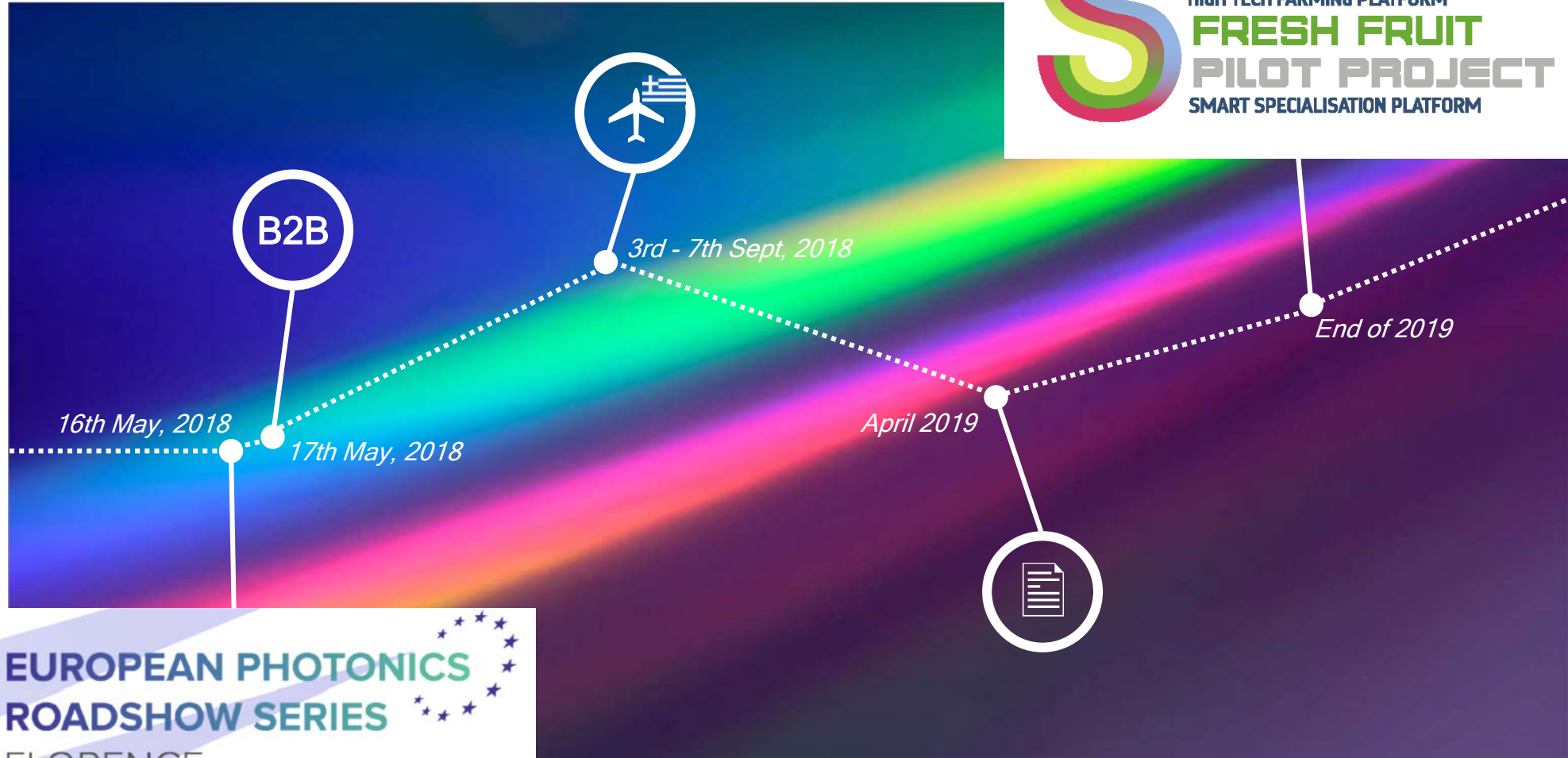


## TARGETS

- ✓ Replication & protocol optimization
- ✓ Objective method to assess ripeness threshold

→ Economic benefit for farmers & importers ←

# TIMELINE



EUROPEAN PHOTONICS  
ROADSHOW SERIES  
FLORENCE







## DEVELOPMENT OF NEW TECHNOLOGICAL SOLUTIONS IN VITICULTURE

- ▶ Coordinators: American Farms School (AFS) & Central Macedonia
- ▶ Other partners: Tuscany Region, Brittany, Centro Region, Flanders
- ▶ Main solutions:
  - ALAMO (Brittany- France)
  - Smart VineID (INOV- Portugal)
  - Smart-Grape (IFAC- Italy)



**THANKS** to [photonicroadshow@eprise.eu](mailto:photonicroadshow@eprise.eu)

