

# A Management and Prevention Approach for Precision Farming

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# Agenda

01 Introduction

02 Proposed Approach

03 Conclusion

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# Introduction



The world's population is predicted to reach

FAO

**9. Billion**

**70 %**

Produce more

**2**

# Precision Farming



“

New agricultural method that provides the possibility to do the right thing, in the right place, at the right time and in the right way

”

Pierce,F.J., Nowak,P.,1999

# The purpose



Increase Yield and Production Efficiency

Increase Profitability

Protect Enviroment

# Precision Farming Technologies



- Positioning System
- Geographic Information System
- Guide Bars
- Sensors
- Decision Support System

# Precision Farming Dataset



# Proposed Platform

- Developed for Laore Agency.
- Laore provides **assistance, training and advice** in the regional agricultural sector.

Laore needed a **specific** computer system to help them in crop monitoring.



# Proposed Platform



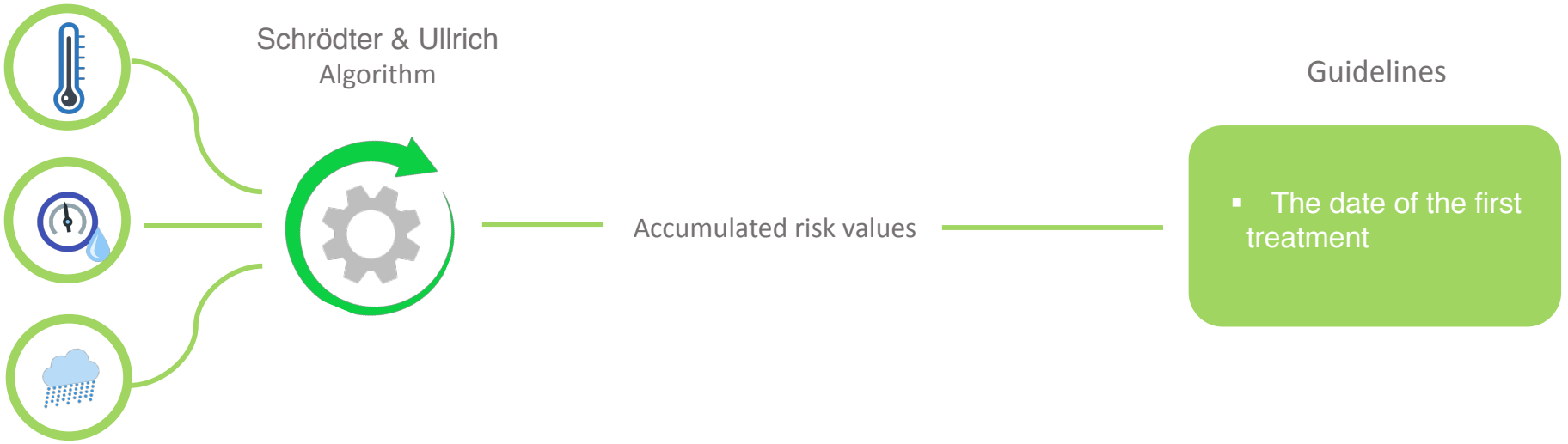
# Case of use: Phytophthora infestans

- Invented by Schrödter & Ullrich
- It predicts:
  - The late blight epidemics are not likely to occur
  - The timing of the first treatment

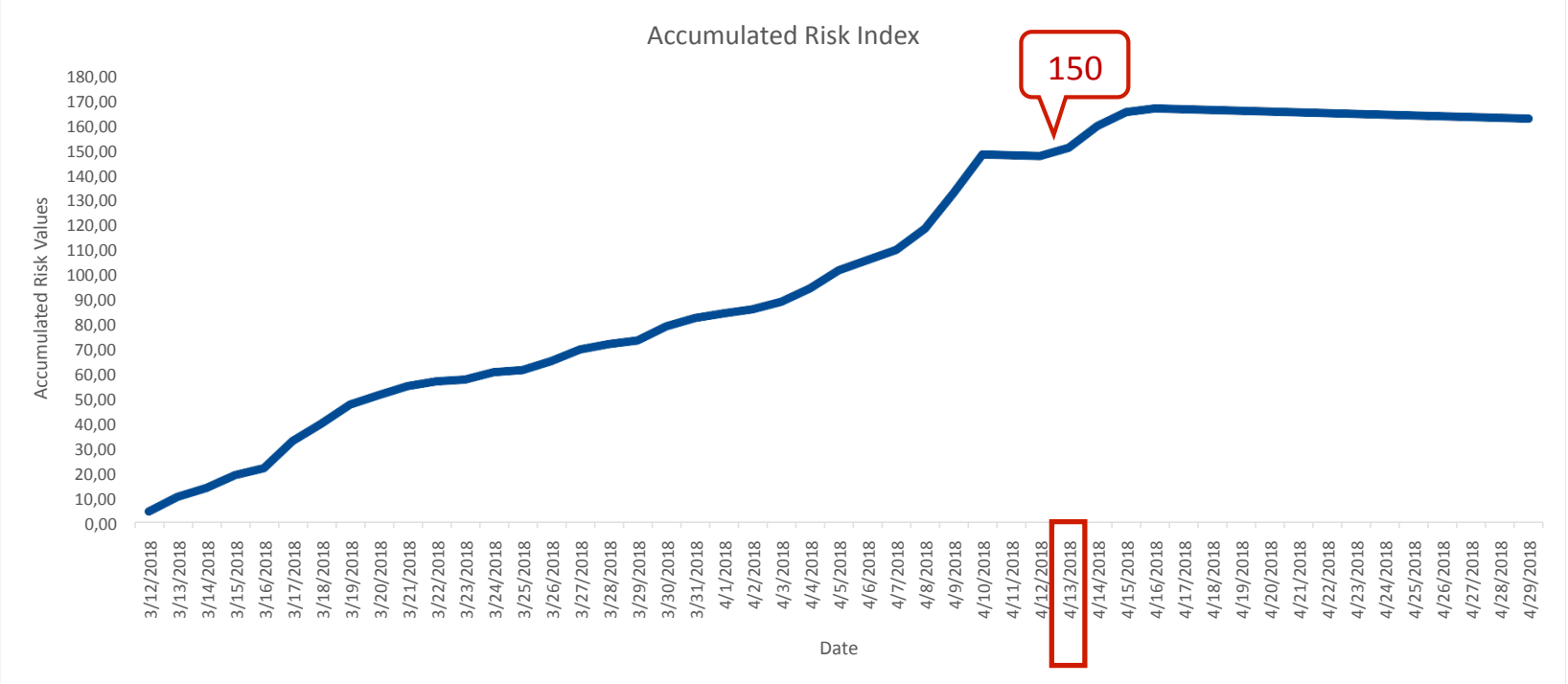


Phytophthora infestans

# Case of use: Phytophthora infestans



# Case of use: Phytophthora infestans



# Case of use: Phytophthora infestans

To predict the second treatment | Fry Model

- **Blight units**
  calculated according to the number of consecutive hours that relative humidity > 90% or = 90%, and average temperature falls within any of six ranges (< 3, 3-7, 8-12, 13-22, 23-27 and >27 C)

- **Fungicide units**
  calculated based on daily rainfall (mm) and time since last fungicide application



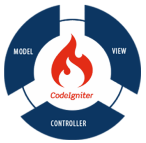
# Architecture Platform

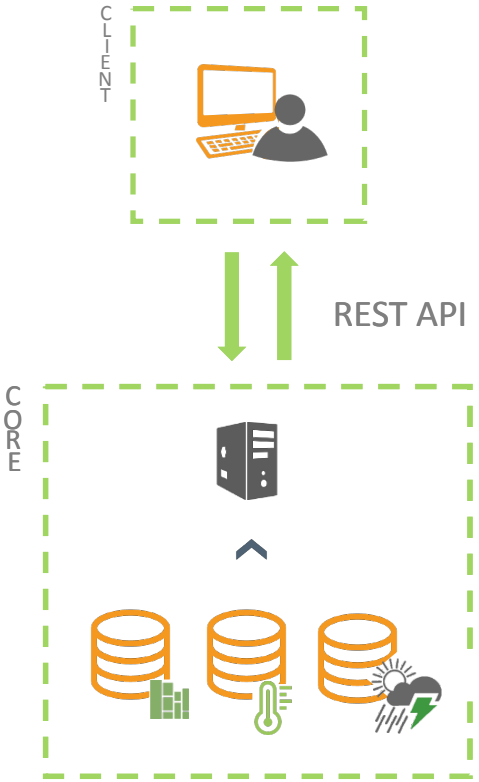
- API:

| Url host | Version | Endpoint |
|---|---|---|
| https://90.147.144.140 | /v1 | /model/potato |

- Technologies:



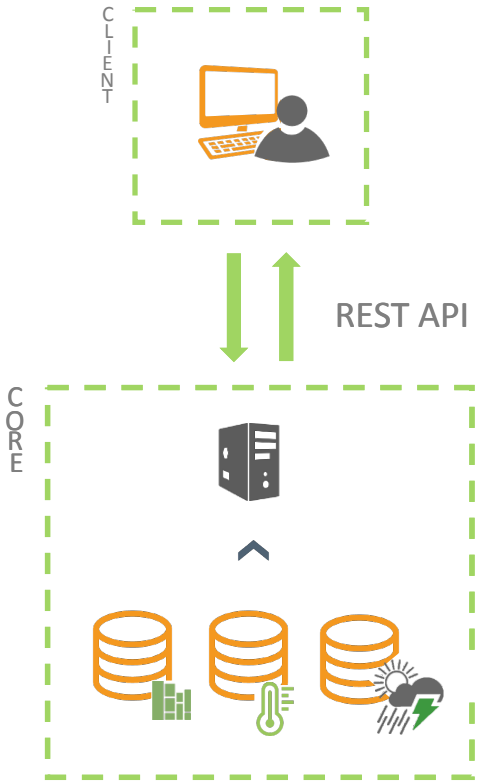



# Architecture Platform

- It is hosted on the University Server

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# Conclusion and Future works

- The approach guides the Laore technicals to identify the best strategies and intervention to apply on the yield monitored.
- Optimizations
- Integration of new models for crops monitored by the Laore Agency



# Thank you!