



5/7

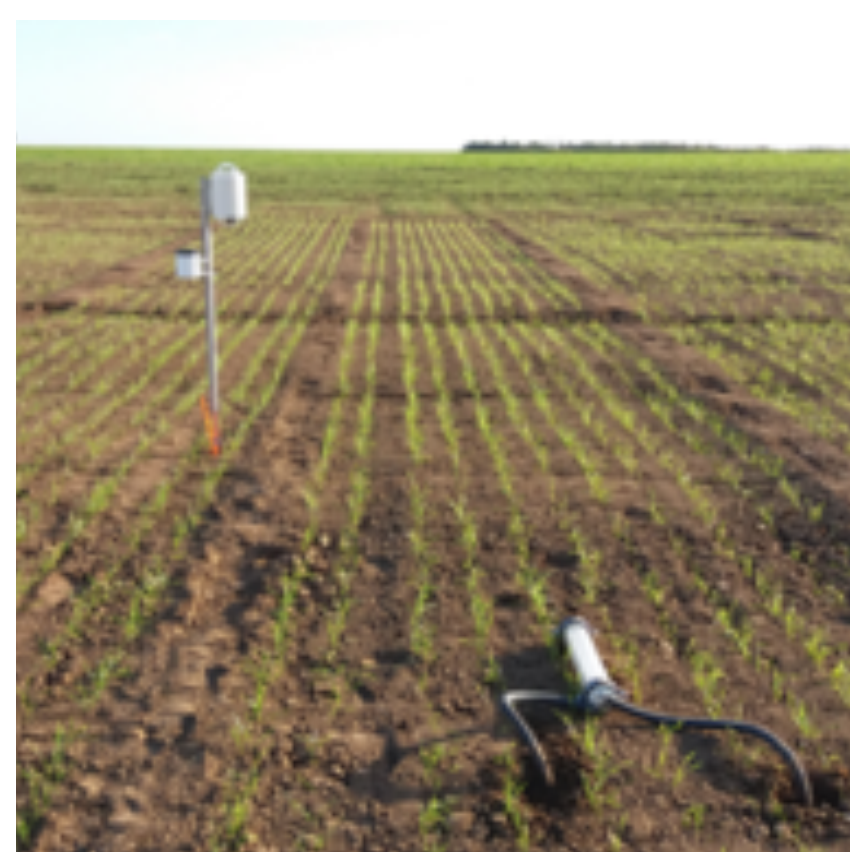
CURRENT TRL
& TARGET TRL

50

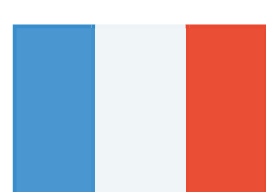
MILLION EURO
MARKET POTENTIAL

14

MILLION HA
POTENTIAL AREA
COVERED



COUNTRIES

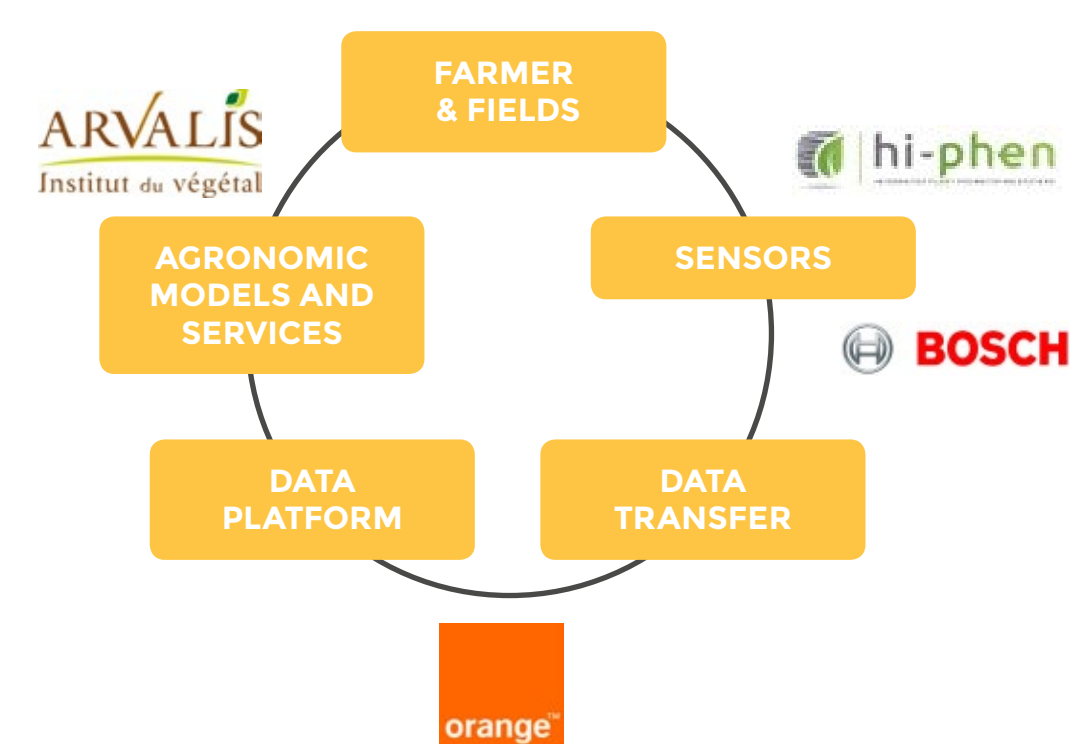


PARTNERS



1.2 PRECISION CROP MANAGEMENT

The development of decision making tools and services is a priority to help farmers adopt better practices and optimize input management of their fields. Precise advice relies on accurate observations of crop status and growing environment. Existing services use climate data and satellite imagery that provide valuable information but has limitations. Improvement of these services requires a higher spatial and temporal resolutions that are now accessible by using ground based sensors.



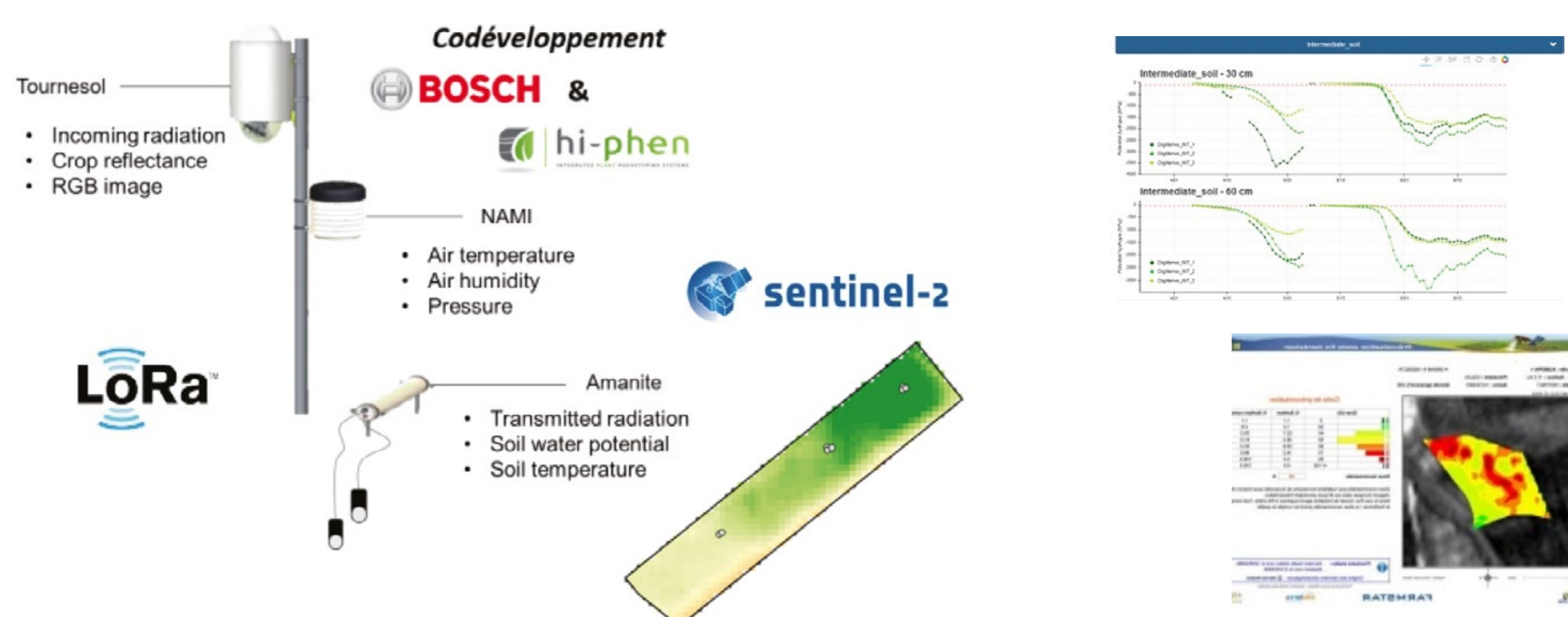
HOW IT WORKS

Satellite + IOT sensors are highly complementary.
Combining both data sources offers a high temporal and spatial monitoring solution.



Integrated into Decision Support Tools they allow:

- Decision of irrigation based on soil sensors
- Nitrogen application maps from satellite + IOT sensors



The installed systems, provided by our subcontractors HIPHEN and BOSCH, are measuring simultaneously the vegetation growing status, main meteorological variables and the soil water potential. All data are transferred and made available on Orange data platform and combined with SENTINEL 2 satellite images. Data are integrated in ARVALIS agronomic models to provide accurate advices on crop management. Two topics are currently addressed: nitrogen and water management. Other applications are planned.

THE IMPACT

OUR OBJECTIVES

Nitrogen and irrigation for wheat, in a precision crop management approach. Nitrogen and Water are the two main limiting factors impacting wheat production. 30 systems will be deployed in Ile-de-France region to assess technical and economic values of the IoT technology.

ON ECONOMY

The potential of the French market for in-field nitrogen management is estimated at €50M, with 14 million ha potentially encompassed by the DST development. Such development could also apply to the European market. Regarding irrigation, acquiring a decision tool working in real time might lead to gains up to €20-€30 / ha.

OTHER IMPACT

IoT technologies will help farmers in their labour organization (time saving) and working environment. It will directly reduce the footprint of their activities through the optimization of their practices. It will also indirectly contribute to a better perception of agriculture by the society and consumers.