E-crops -- Technologies for Digital and Sustainable Agriculture

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A project toward the development of Agriculture 4.0 (Digital, Sustainable) in southern Italy, centered on data

develop sensors and technologies to manage crops and risks

realize field pilots to validate the technologies
– *crop-specific and size-specific* –

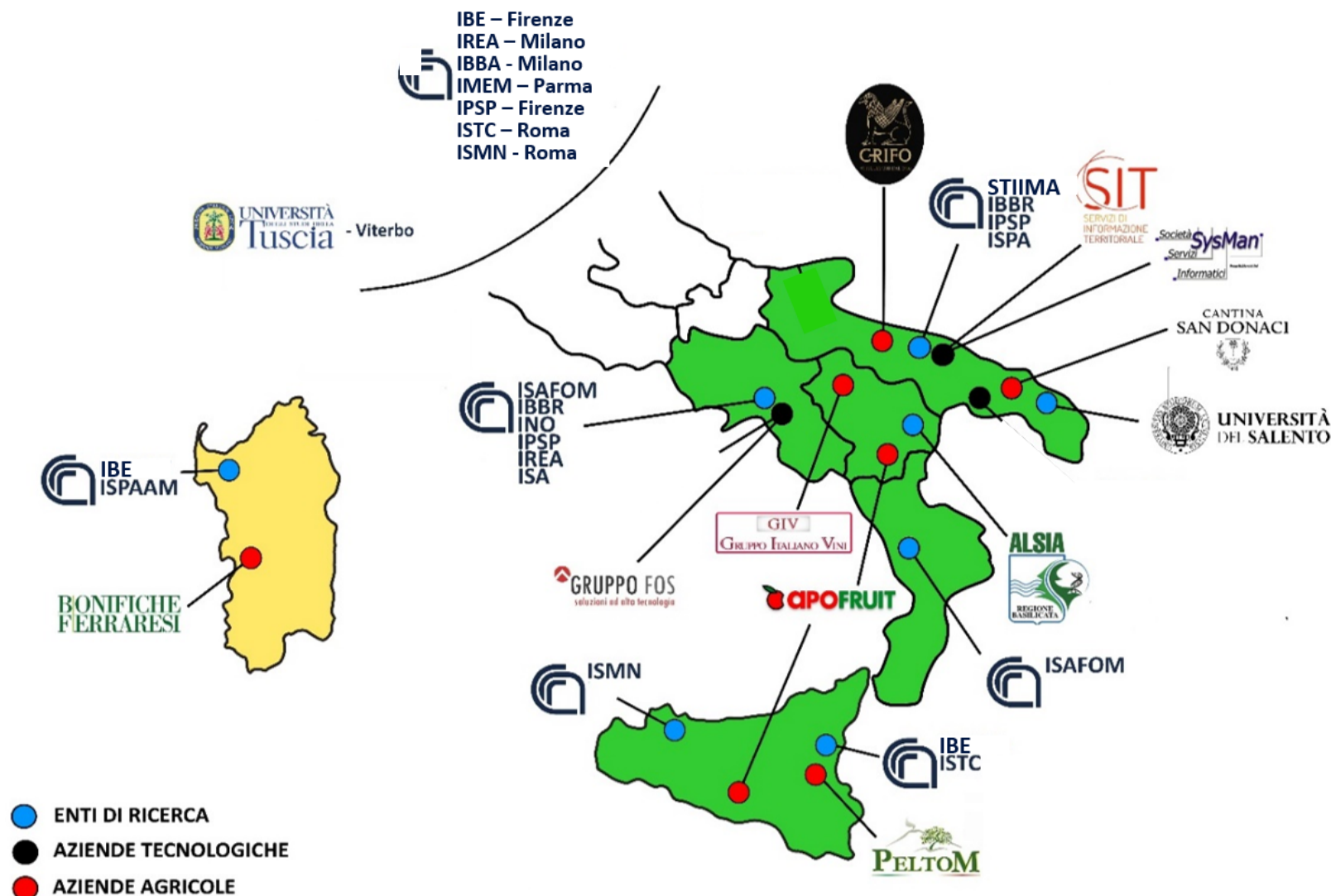develop decision support tools
– *goal-specific*

IBE – Firenze
IREA – Milano
IBBA - Milano
IMEM – Parma
IPSP – Firenze
ISTC – Roma
ISMN - Roma

Public Research Bodies

&

ICT companies

&

Farms

UNIVERSITÀ Tuscia - Viterbo

CRIFO

STIIMA
IBBR
IPSP
ISPA

SIT
SERVIZI DI INFORMAZIONE TERRITORIALE

Società Servizi SysMan
Informatici

CANTINA SAN DONACI

ISAFOM
IBBR
INO
IPSP
IREA
ISA

UNIVERSITÀ DEL SALENTO

IBE
ISPAAM

BONIFICHE FERRARESI

GIV
GRUPPO ITALIANO VINI

GRUPPO FOS
soluzioni ad alta tecnologia

apoFRUIT

ALSIA
REGIONE BASILICATA

ISAFOM

ISMN

IBE
ISTC

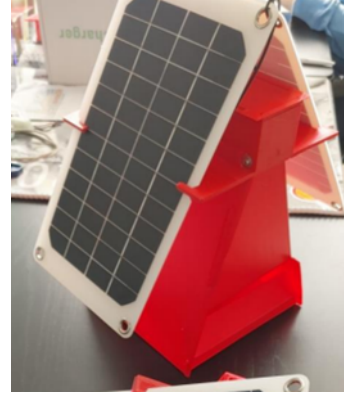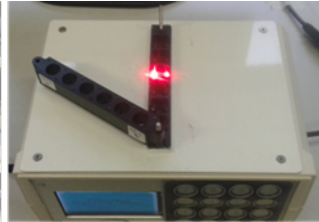PELTOM

🔵 ENTI DI RICERCA
⚫ AZIENDE TECNOLOGICHE
🔴 AZIENDE AGRICOLE

development of innovative sensors & integration with existing technologies
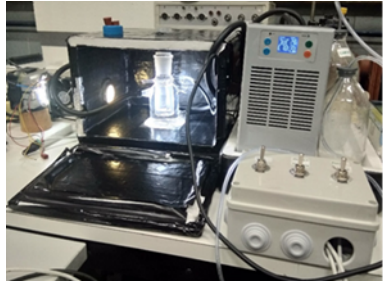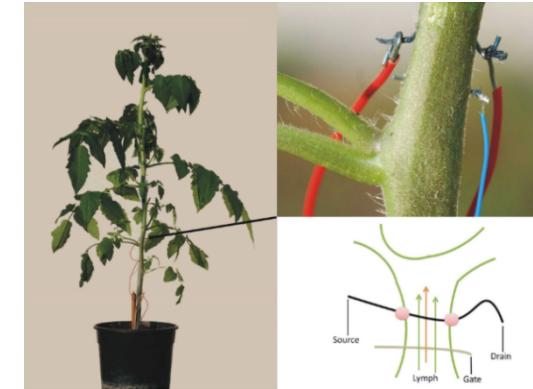

Sensors for pesticide detection

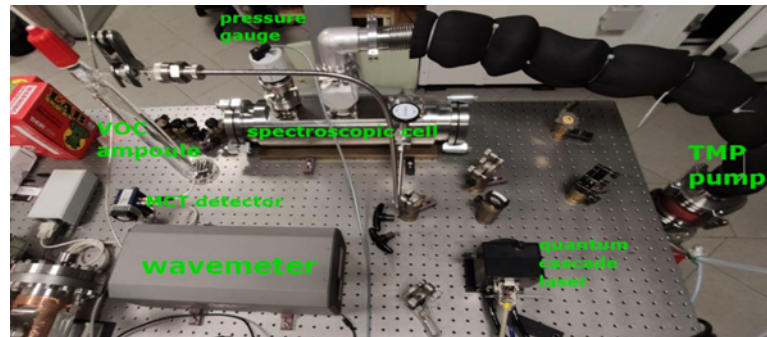IoT sensor networks
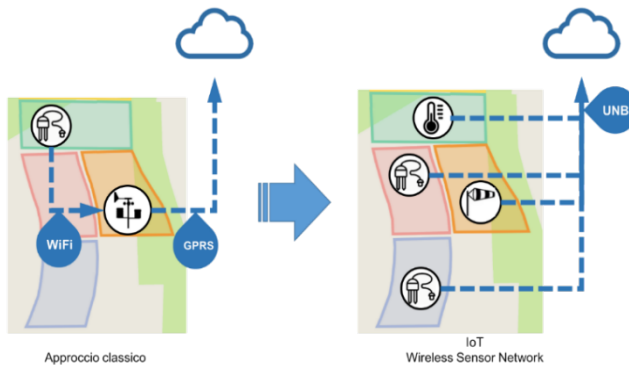

Sensors for AI-driven pathogen detection
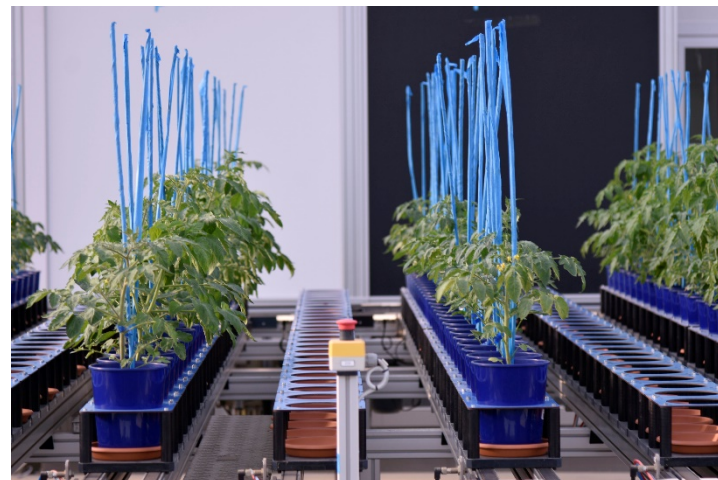
in-vivo biophysical sensors for stress detection

VOC sensors for stress detection - plant signaling
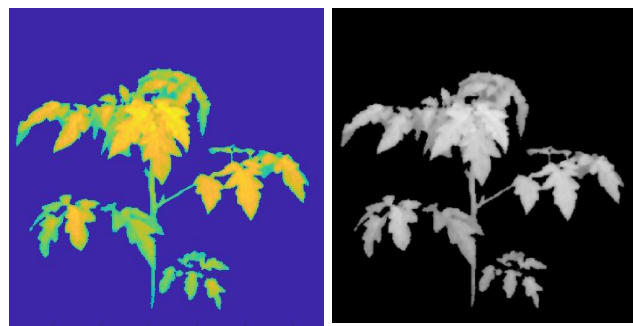
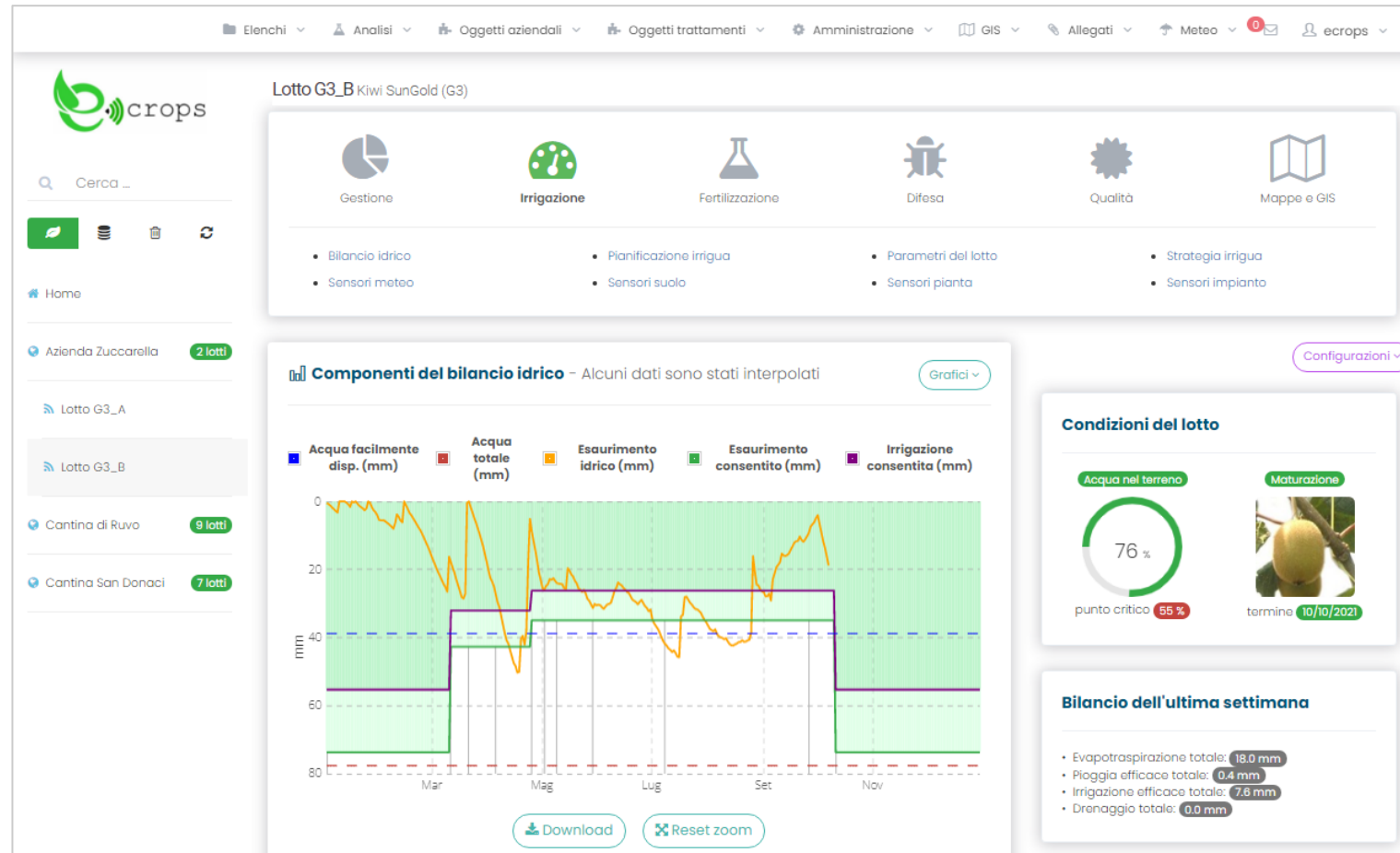hight-troughput phenotyping → sensors → drones→ rovers → plant traits

Field → Plant → Fruit
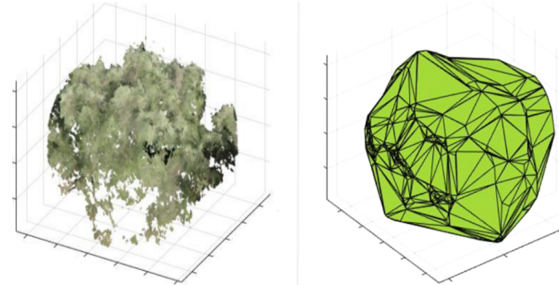
data → plant biomass → LAI → yield → fruit counts → fruit maturity…

Close the loop – from data to decision support

management support: → irrigation → fertilization → pruning ….

Conclusions

Where we are

Year 1: technology development, requirements definition

→ Year 2: field pilot deployments – data acquisitions

Year 3: finalize decision support

The Challenges

- multi-disciplinary actors

- bridge role of public bodies

- introduce technologies into agriculture SME

www.e-crops.it