

CircuitML

Browser Tool for Streamlined Deep Learning Workflows

17.06.2021 | PHILIPP ZEUNER



Challenge

- Training of Deep Learning Models is complex and time consuming:



- Running through the Deep Learning Lifecycle has heaps of work outside „regular“ data science tasks
- Talented Data Scientists without the relevant IT expertise are excluded from the value stream

Goals

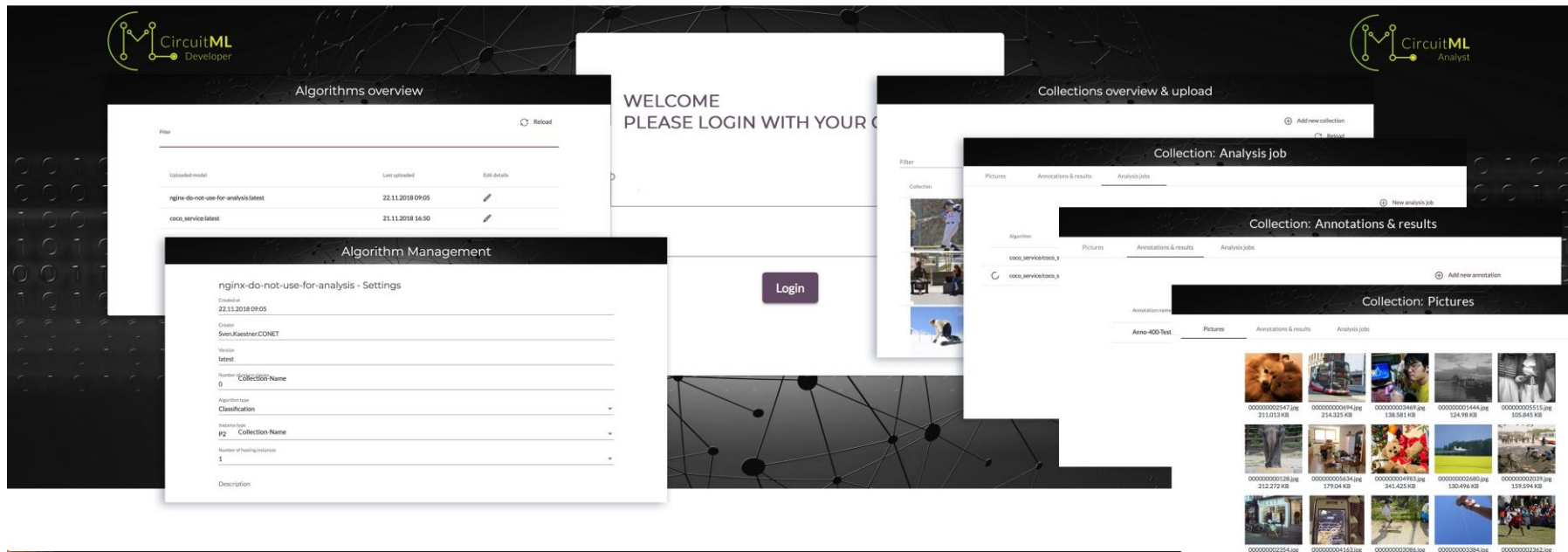
- Provide Deep Learning Technology to any Data Scientists by reducing IT technical obstacles
- Easy-to-use graphical UI to manage complex IT infrastructure of Deep Learning Frameworks
- Streamline data preparation and data annotation into one single platform
- Rapid test of Deep Learning Models via the browser with no local installations



Frontend



Backend



Algorithms overview

Updated model	Last updated	Edit details
nginx-do-not-use-for-analysis:latest	22.11.2018 09:05	
coco_service:latest	21.11.2018 16:50	

Algorithm Management

nginx-do-not-use-for-analysis - Settings

Created at: 22.11.2018 09:05

Editor: Sven Kaefer/CONET

Version: latest

Number of instances: 0 **Collection Name**

Algorithm type: Classification

Instance type: p2 **Collection Name**

Number of training instances: 1

Description:

WELCOME PLEASE LOGIN WITH YOUR C

Login

Collections overview & upload

Collection: Analysis job

Collection: Annotations & results

Collection: Pictures

Integration of 3rd Party Annotation Tools (e.g. LabelBox)

Labels [or] to select rows -- or -- to change page

cjosq06171z4x0975ptrlewt
5 days ago by skaestner@conet.de

cjosq0715rea60d40gwzzmt4h
5 days ago by skaestner@conet.de

cjosq06141z4u0975wu2ivo8v
3 days ago by skaestner@conet.de

< 0-3 of 3 >

cell phone

chair

clock

couch

cow 2

cup

dining table

dog

donut

elephant

fire hydrant

fork

frisbee

giraffe


hair drier

handbag

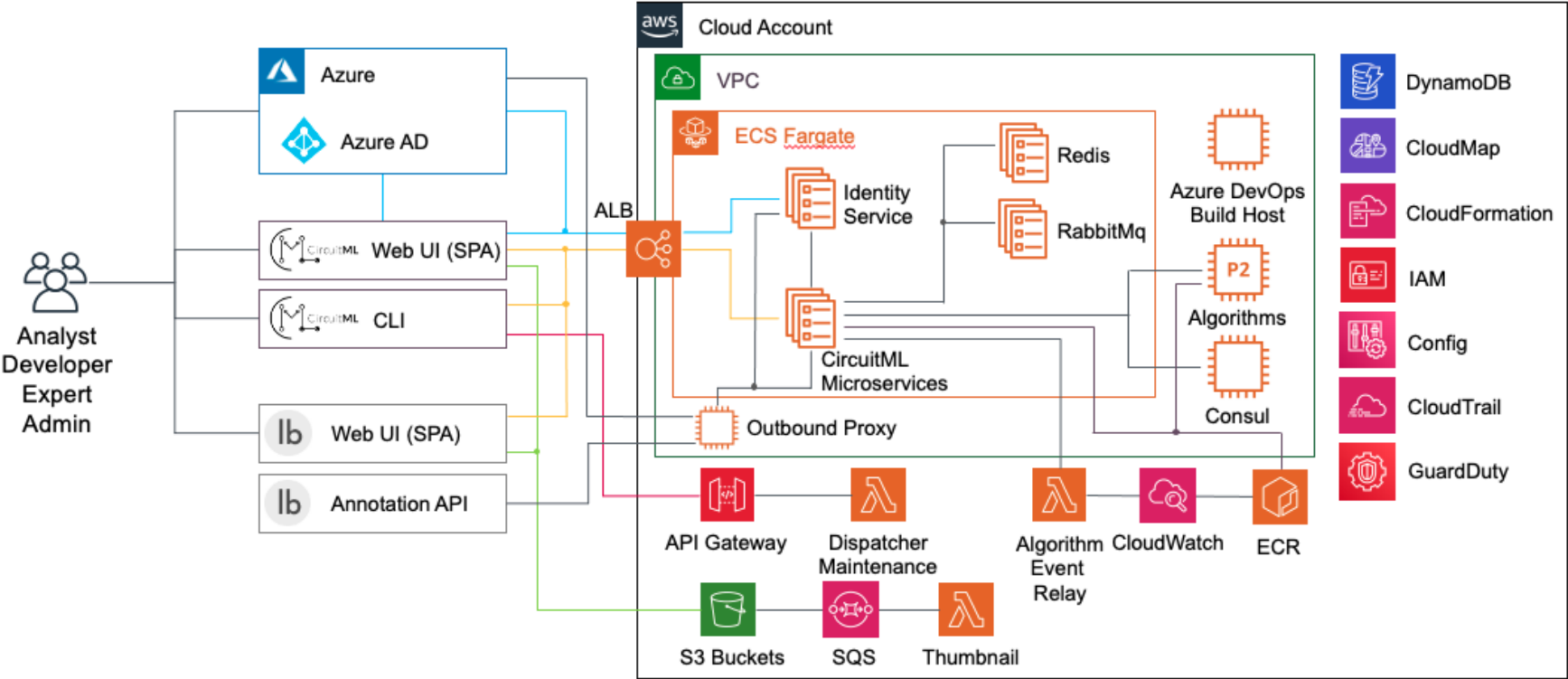
horse

Outline listed objects > >>

skaestner@conet.de
5 days ago



1



Thanks for your attention ;)
Questions?

Digital Farming - FMT mobile



Digital Farming
Solutions

Field Manager Mobile – BASF Xarvio



Digital Farming
Solutions

The population of the earth is growing - From 8 billion people at present to up to 10 billion people in 2050, even with cautious forecasts.

Our resources are not growing - so nourishment will depend in the medium term on how well we use the available agricultural land.



Field Manager Mobile – BASF Xarvio



Digital Farming
Solutions

- High efficiency of fields and farms, optimal use
 - Simple and intuitive handling of applications
 - More certainty for planning and decisions
 - Sustainability for the use of all resources



■ Goal

- Field manager: Increasing efficiency of fields, better crop protection, here as mobile solution as “first class application”, international

■ Budget: ~ 2500 PT

■ Period: 01. 09. 2018 – 30. 09. 2021

■ Methodology:

- Scrum (in the frame of Scrum of scrums for complete Field Manager Project),

■ Project language: English

■ Customer

- BASF Xarvio Digital Solutions GmbH, Münster and Cologne

- [Web](#)

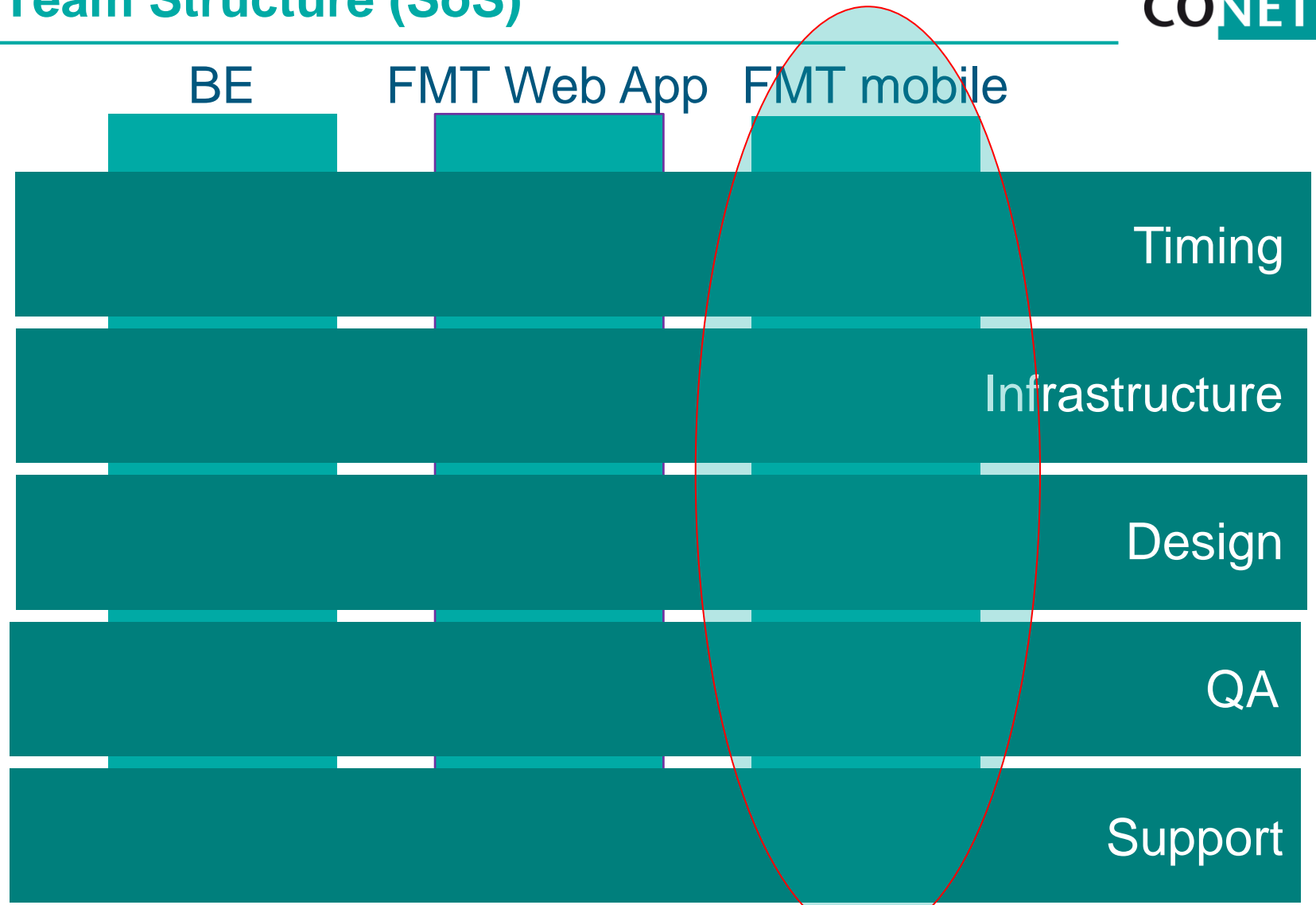
■ End User:

- Farmer with 1-n farms, their employees or other people the owner shared access for
- Biggest Accounts 3 + farms, 200-500 fields per farm

■ Product

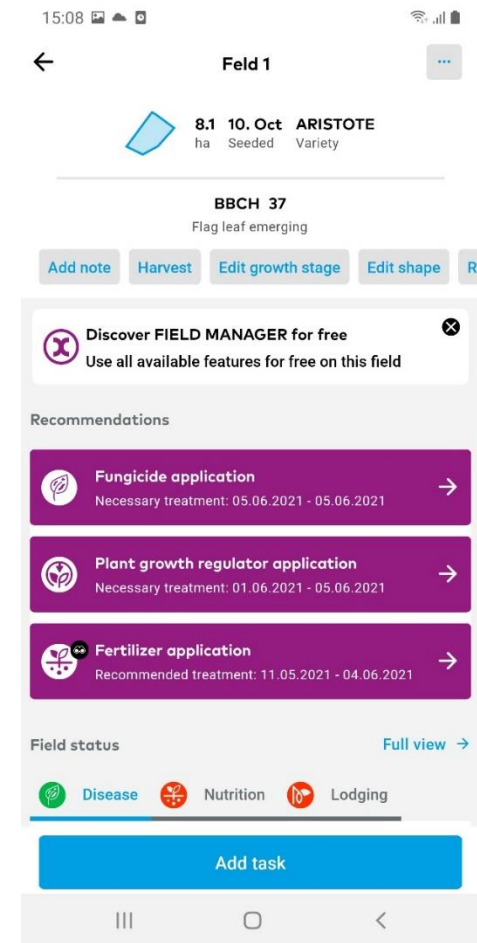
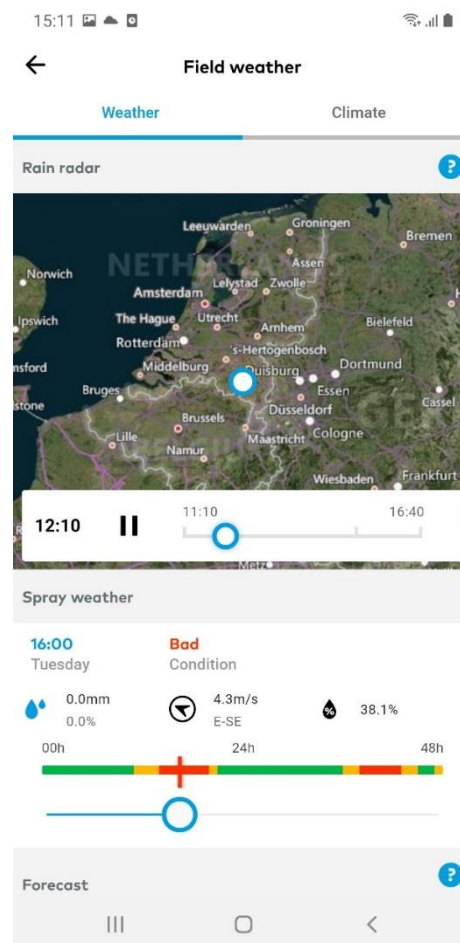
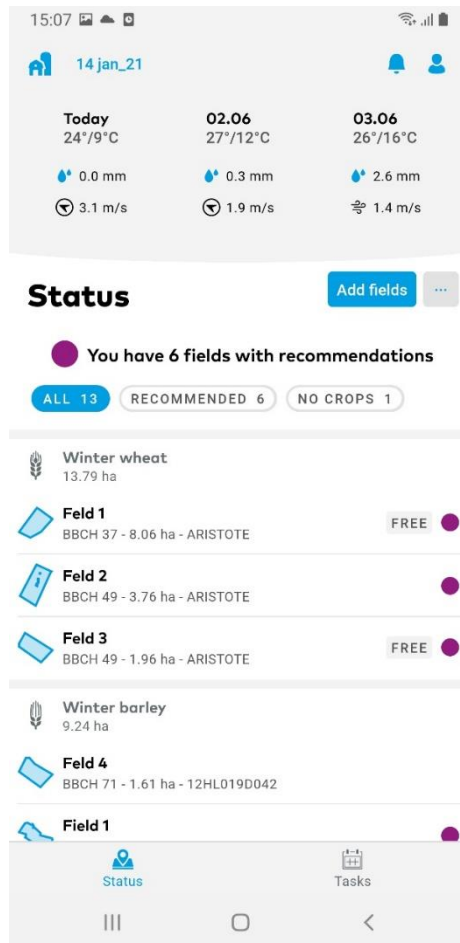
- [Product Video](#) (2,5 min)
- [Xarvio Test Center](#) (2,5 min)

FMT Team Structure (SoS)



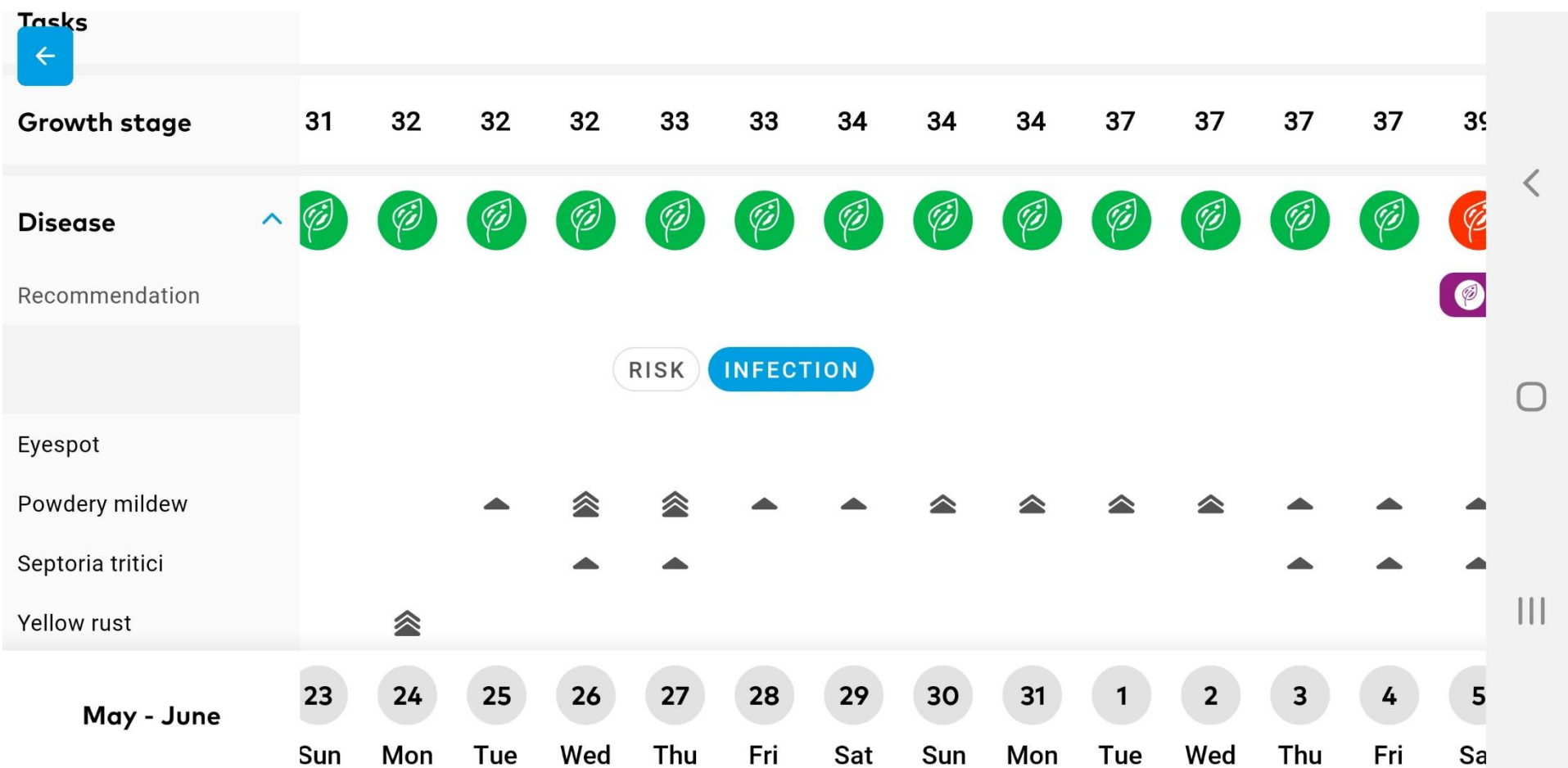
CONET employees are participating in FMT mobile part .. The complete team are over all more than 100 people

FMT Mobile – Field Status, Details

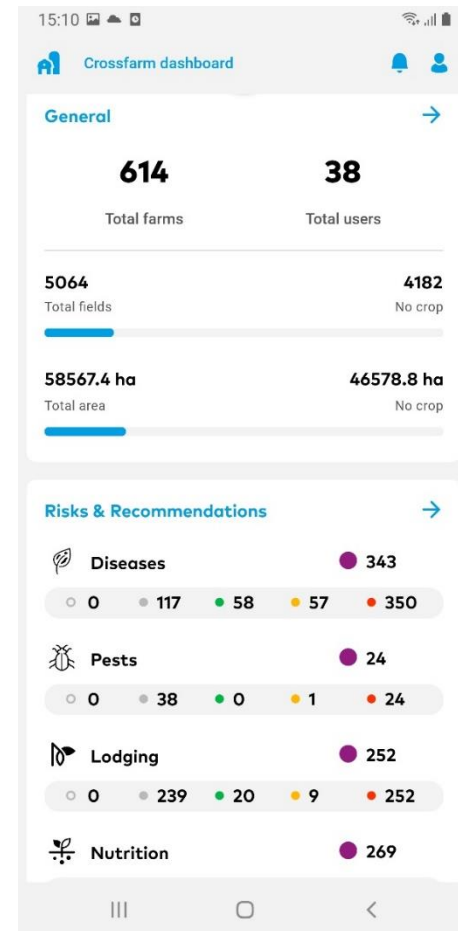
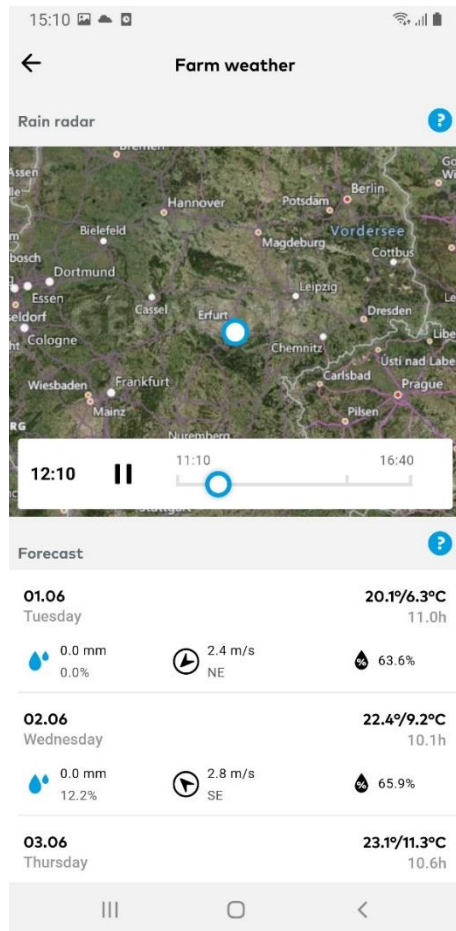


Definition of fields, assignment of crops, observation of crop and field status during crop season and planning of preventive tasks against diseases or pests,

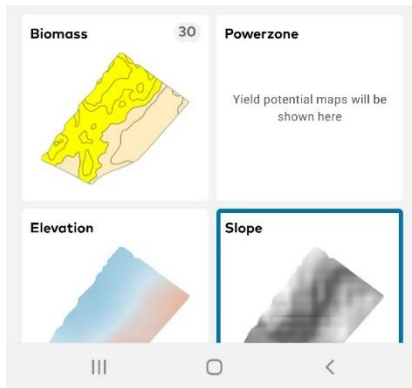
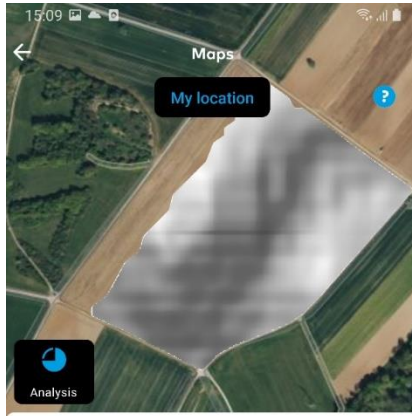
Combined with weather overview and considering the weather conditions for a specific field e. g. for spraying tasks.



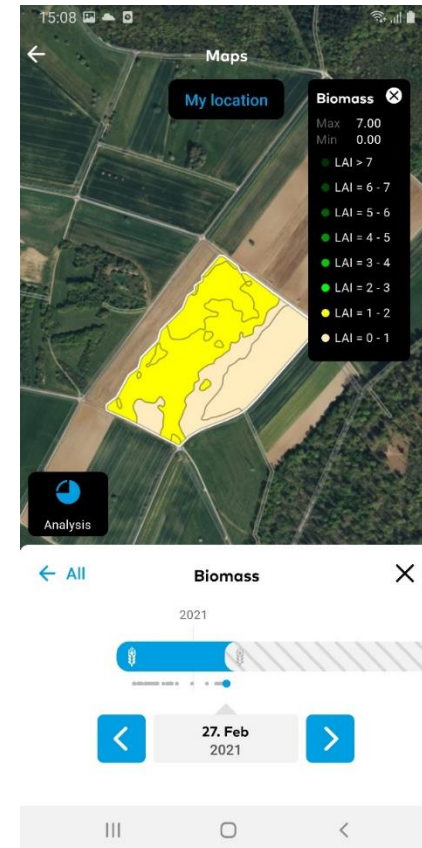
Preview of possible diseases and pests in combination with the growth stage of plants



Farm weather with the option to show the weather over the day
Importance for planting – spraying – or harvesting (Dry matter content)



analytics page



Detail Biomass map

Supporting soil analysis and tillage providing biomass maps – important for fertilization and plant growth

- Partially with offline functionality – remember, we are somewhere in a farm
- Technical background: 2 Platforms: Android and iOS, huge amount of devices to be supported
- Small display size (smart phones)
- Flexibility: internationalization: introduction of more and more countries and regions all over the world, like Canada, US or Argentina, Brazil or China, India – means beside localization: other crops, other products, other diseases, other seasons,...but also other service providers, and much more
- Amount of data: maps for the fields (biomass, nutrition, zones in the field), weather data, Harvest timer ... -so mobile application is a subset of functionality
- Volume: biggest accounts:
 - multiple farms (3 +)
 - Multiple fields per farm (300-500)

Thanks for your attention



Digital Farming
Solutions

