EIP-AGRI Seminar
New skills for digital farming

5-6 February 2020 – Aranjuez, Spain
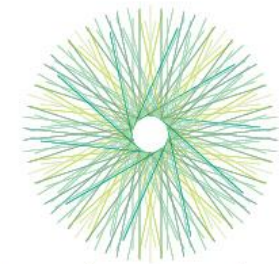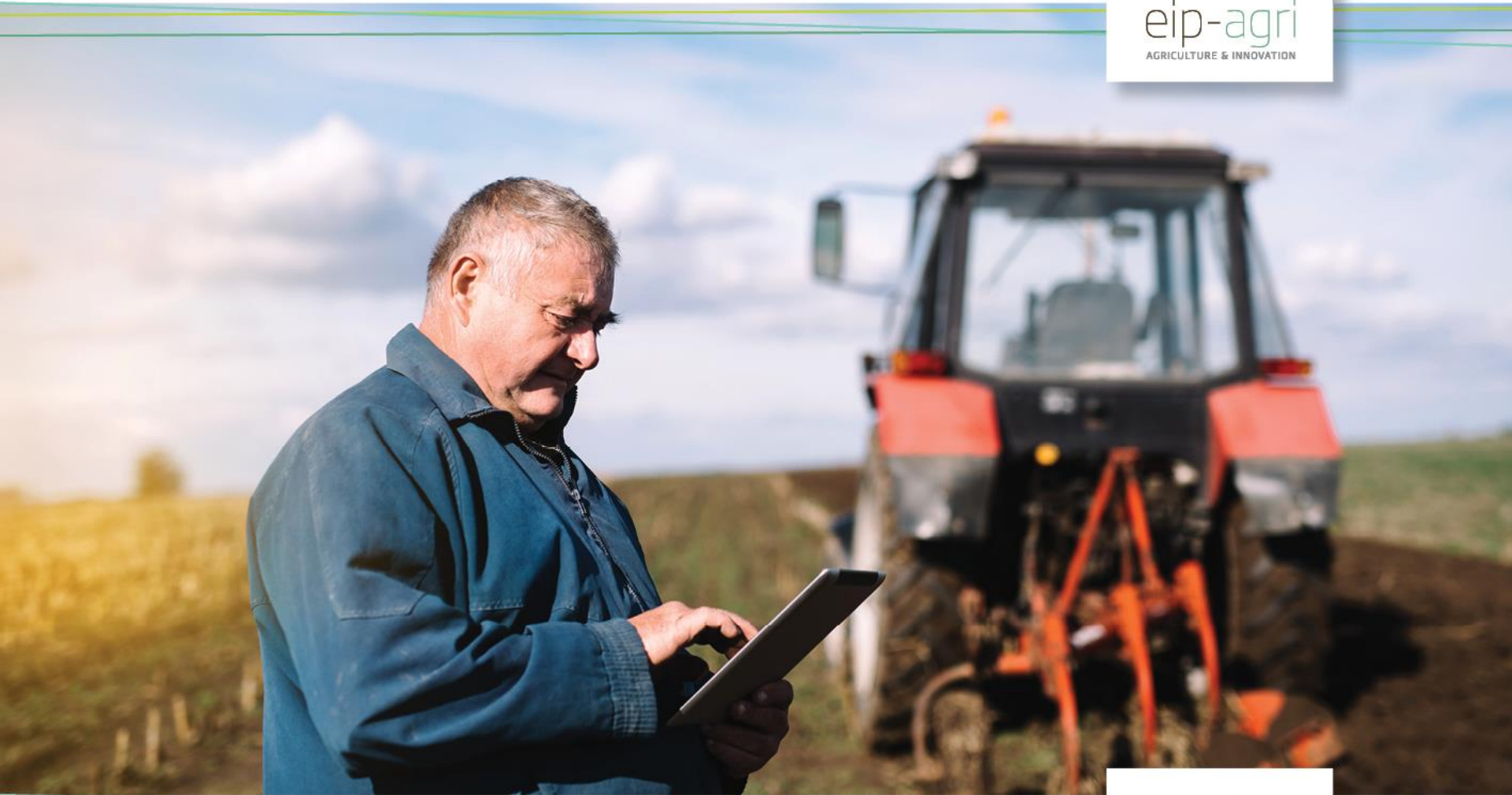
Programme

THURSDAY 6 FEBRUARY 2020

08:15 – 08:45   Registration for day 2

08:45 – 09:10   Introduction to the day

Session 2: How do we move forward?

09:10 – 10:45   Developing skills for digitalisation: An inspirational journey

Presentations by: *George Beers (NL), Miguel Cordero (ES), Beatrice Dingli (FR), Thomas Engel (DE), Hubert Gerhardy (DE), Lotte Ipsen (DK), Tom Kelly (IE), Gintare Kucinskiene (Lt), Hercules Panoutsopoulos (GR), Tetiana Pavlenko (DE), Jürgen Vangeyte (BE)*

10:45 – 11:15   Coffee break

eip-agri
AGRICULTURE & INNOVATION

Programme

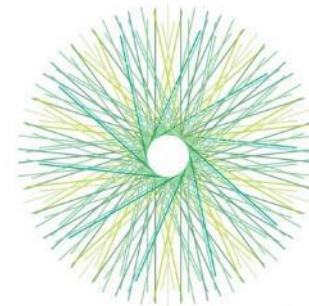## THURSDAY 6 FEBRUARY 2020

11:15 – 12:30   Tools and approaches for skills development in the farming sector: Breakout session

12:30 – 12:50   Feedback from the discussion

12:50 – 13:00   Closing of the seminar

Kerstin Rosenow, European Commission, DG AGRI

Developing skills for digital farming:
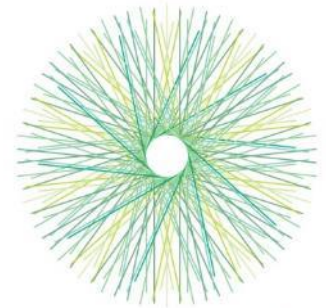# An inspirational journey

Seminar: 'New skills for digital farming'
Aranjuez, Spain
5-6 Febraury 2020

1. Formal education and training: targeting future farmers

How can classical education and training address the digital skills gap in agriculture?

Inclusion of digitalisation in **vocational education and training curricula** for (future) young farmers and advisers. Focus on basic knowledge and practical understanding of digital tools to develop a range of skills and solve farms' problems.	Examples: - Denmark, Bygholm Agricultural College (Lotte Ipsen) - Spain, Fonteboa High Secondary School (*Constante Lorenzo*)
Pulling resources via **Erasmus+** to: improve key competences and skills, prepare for the future (digital) job, foster cooperation and knowledge exchange across Europe, and between education, training providers and others.	- Erasmus + SFATE - Smart farming training for employment (Miguel Cordero) - Erasmus+ SEED - Smart Entrepreneurial Education and training in Digital farming (*Sonia Mendoza*)

eip-agri
AGRICULTURE & INNOVATION

funded by European Commission

Lotte IPSEN
Bygholm Agricultural College
Denmark

STEAM – educational program

One way of meeting the skills needed in digital farming

Bygholm

Agricultural College & Conference Center

Key challenges and skills addressed

Students at agricultural college in Denmark at the age of 16-20 years

Key challenge
Develop the students competences to use and implement digital technologies in farming

Skills addressed

The framework

- At the college we have access to the existing technological solutions used on farms today
- We have access to scientist and companies developing drones, field robots and software
- Teachers have knowledge and skills to use and teach the existing technologies and digital solution

But

- How do we develop the competences to use digital solutions maybe not yet invented?
- How do we train the students to choose and implement the *right* digital technology – the one, that helps them farm more sustainable at lower costs to the benefit of man, animals and nature?
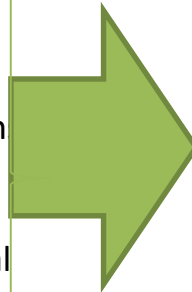
- Fundamental understanding of how digitalization can contribute in solving practical problems on farms.
  - Focus should be on understanding the principles in digital technology and not (only) on the existing solutions
- Competence to solve problems based on knowledge, collaboration and innovation.
  - These skills are not specific to working with digital technologies.

STEAM – a didactic and pedagogical approach to educating
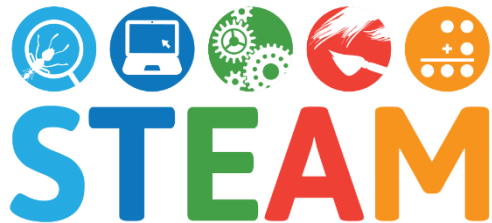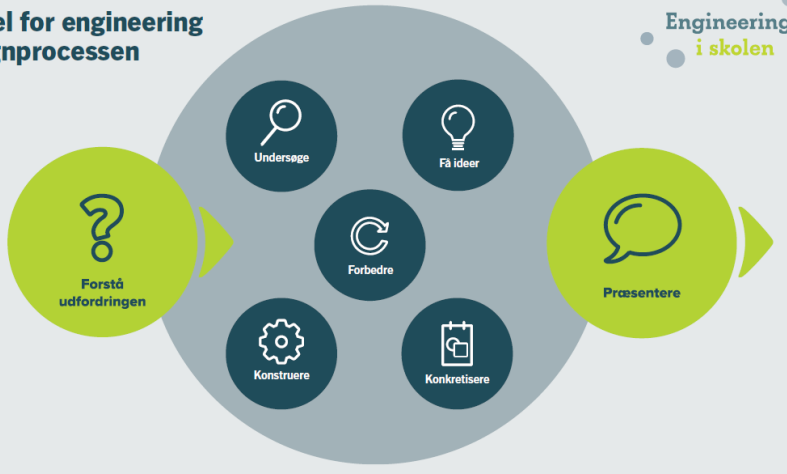
- **Understand the problem**
  - On farm
- Investigate
  - Look into existing technologies
  - Use knowledge from
- Get ideas
- Create
- Construct
  - Prototype-technologies, LEGO-Mindstorm, LittleBits
- Improve
- **Present**
  - To the farmer

What students learn?

Building prototypes – basic knowledge and understanding of digital technologies

Testing field robot
- Knowledge about existing solutions and technologies

How is this useful for future farmers?

Fundamental understanding of digital technologies:

- As a farmer, your can adapt and implement new technologies on your farm, because you have general knowledge about digitalization

Problem solving competences (critical thinking, creativity, collaboration and communication)

- As a farmer you can choose the right digital, technological solutions to your problem

Bygholm

Agricultural College & Conference Center

In cooperation with a primary schools

- Not every body in the primary school go to the agricultural college, but
  - Fundamental understanding of digital technologies can be use in any other business
  - Problem solving competences are important for all students
  - Teachers learn from each other

- Ease the transition from primary to secondary school and further education
  - Teachers use methods that students will recognize
    - Building prototype models require skills – the more the students practice, the more they can focus on i.e. programming or understanding specific technologies and not only on the building-process
  - The students in primary school can see the meaning of learning activities

Bygholm
Agricultural College & Conference Center