

# eGylle

## Danish manure registration system

### Torkild Birkmose



**NUTRI-CHECK NET**

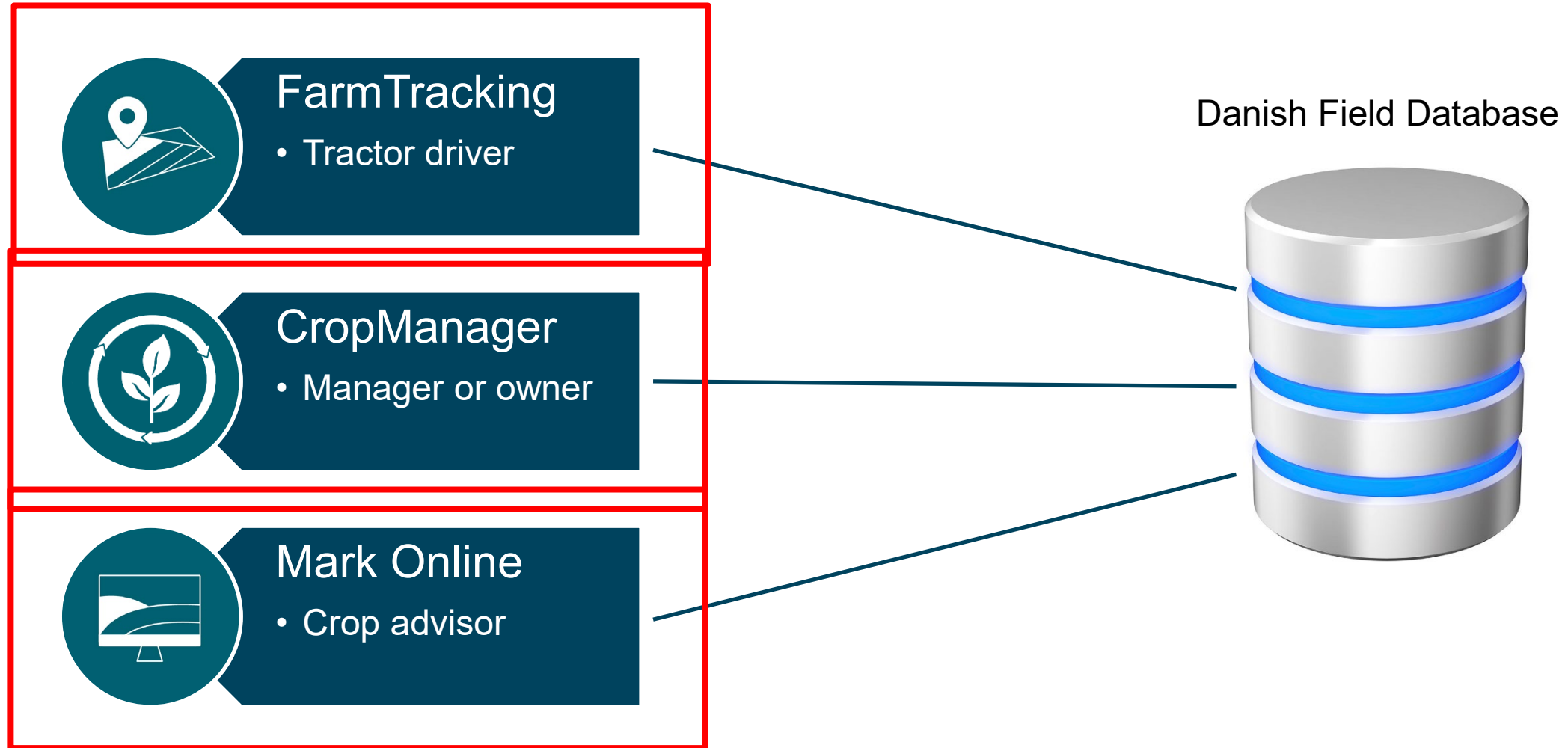
STØTTET AF  
**Promille**afgiftsfonden for landbrug



**SEGES**  
INNOVATION

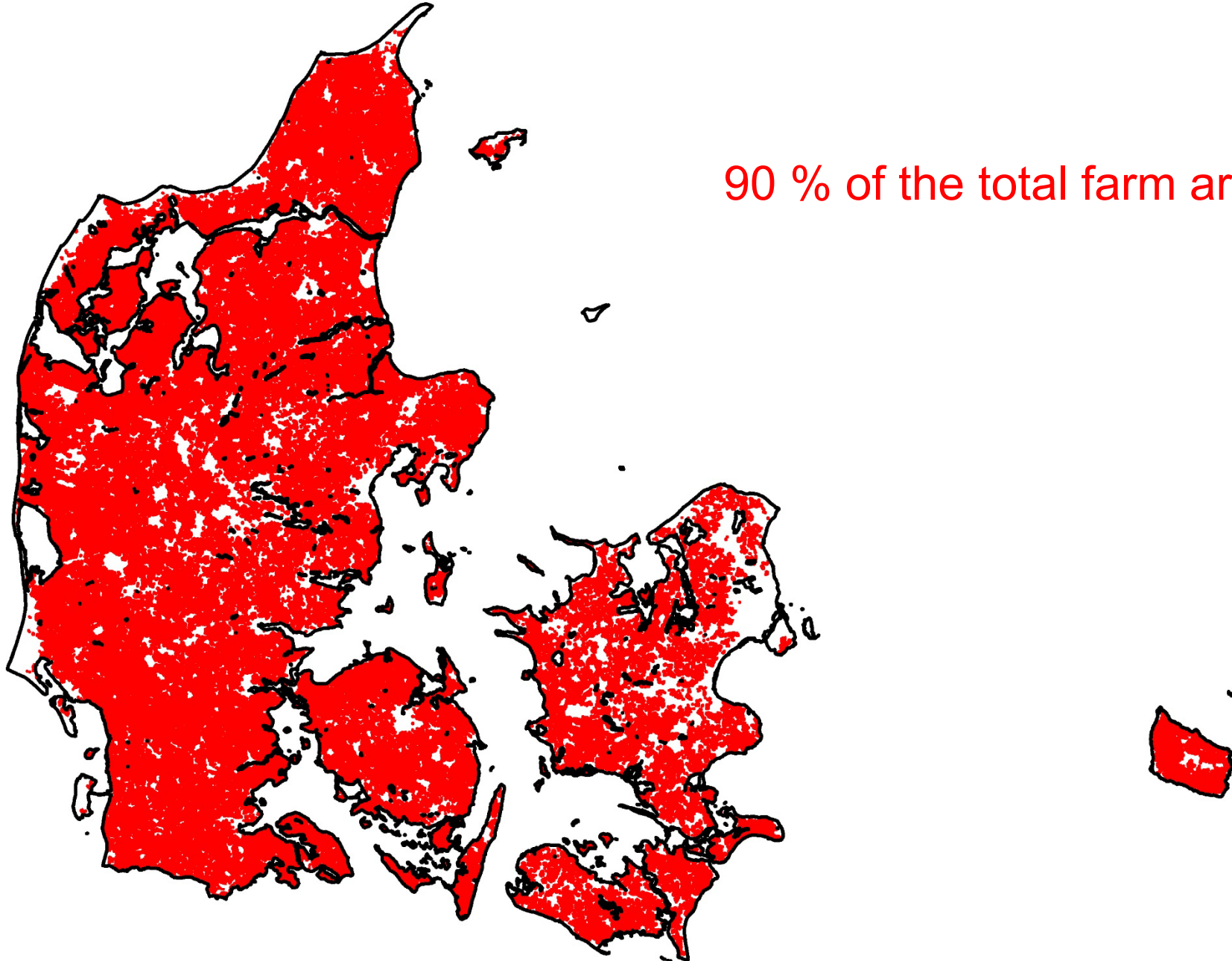


# Three decision support tools – one database



eGylle improves the data in the database and improves the fertilizer plan

# Coverage of fields in Danish Field Database



90 % of the total farm area!

# What is the challenge?

- The fertilizer plan must be precise
  - Farmers and advisers are using a lot of time optimizing it!
- However, one piece of information is unprecise:
  - The utilized amount of nitrogen in applied manure

**1-0**      **Vinterhvede**      **Dyrket areal: 9,26 ha**      **Marknavn:**  
**Sort: Informer**      **Forfrugt: Havre**

Dato	Reg	Produkt	Delareal	Mgd/ha	Mgd i alt	N eff.	N	P	K	Mg	S
15-03-2023	<input type="checkbox"/>	NS 24- 6 mg		170 kg	1574 kg		41			1	10
01-04-2023	<input type="checkbox"/>	Slagtesvinegylle, 4,5 kg N/ton		32 ton	296,3 ton	58%	83	25	115	10	0
		<i>Slangeudlagt</i>									
15-05-2023	<input type="checkbox"/>	NS 24- 6 mg		170 kg	1574 kg		41			1	10
		<b>Tilført i alt</b>					<b>165</b>	<b>25</b>	<b>115</b>	<b>12</b>	<b>20</b>

Make an analyzes  
of the manure

Ask the driver

Calculate in a specific  
web program

# Fertilizing by standard figures

- Some fields get too much nitrogen
  - Lodging
  - Difficult harvest
  - Increased nitrate leaching
- Some fields get too little nitrogen
  - Yield losses
  - Reduced protein level

## Quite simple! Improved planning makes money!

Tank no.	Slurry amount, ton	N-conc., kg NH <sub>4</sub> -N per ton
1	1.100	2,52
2	2.500	2,72
3	4.000	2,95
4	2.500	2,84
5	900	2,00
6	1.500	3,77
7	2.500	2,81
8	3.000	4,01

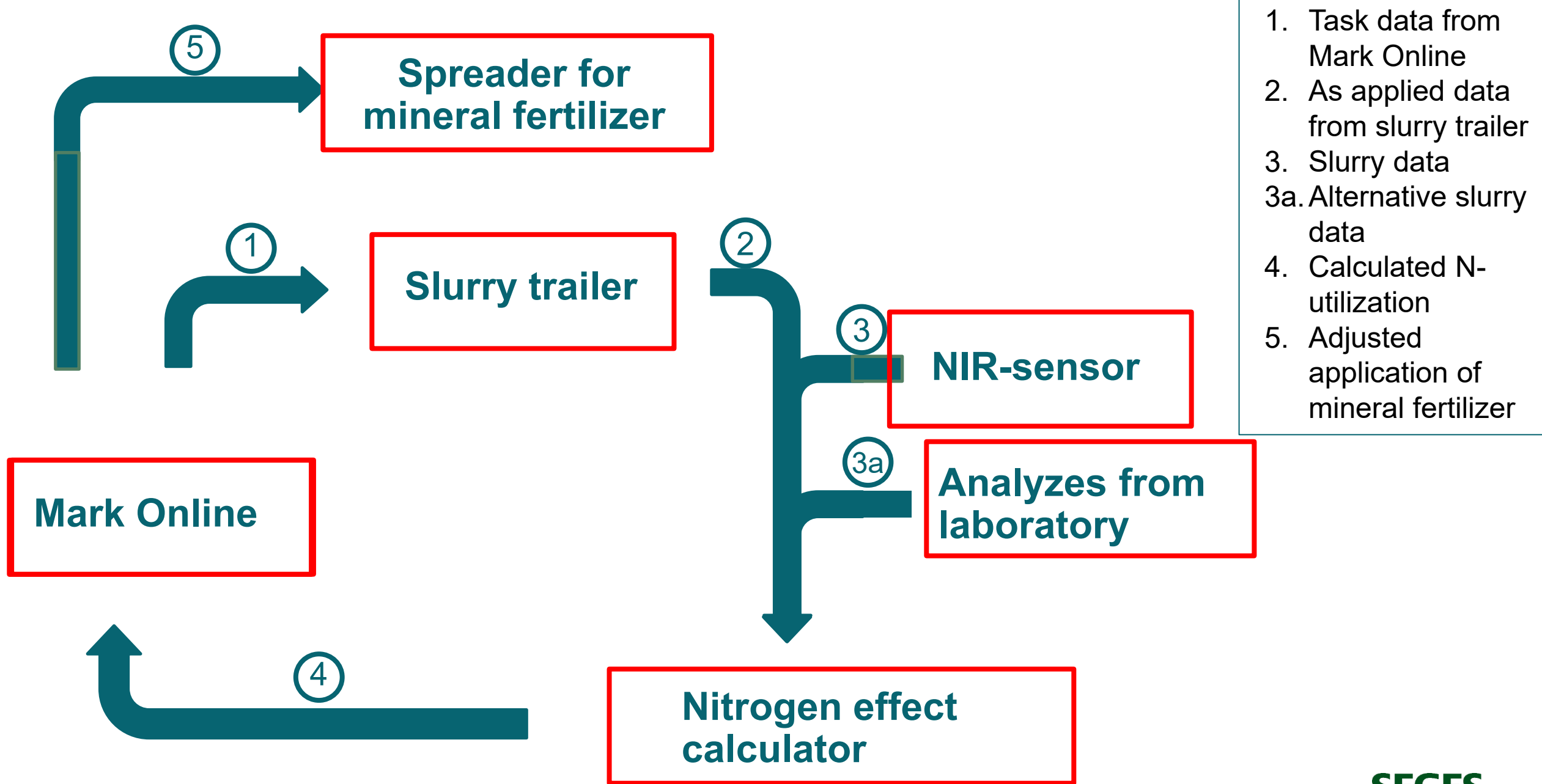
Gain by using slurry analyzes:

- Increased yield: 0.06 tonnes per ha = 12€
- Lower nitrate leaching: about 1 kg N per ha
- Less lodging and easier harvest

## Precise data is good, but it...

- It takes time
- It costs money
- Data disappears on the way
- Data must be registered manually
- Results are maybe too late for future actions
- Too few farmers are doing it

That's is why it needs to be done automatically!





# eGylle delivers precise information about utilized nitrogen in manure

- Precise amount of applied slurry
- Precise slurry composition
  - Automatic transfer of data from laboratory
  - NIR or NMR-sensor on slurry trailer
- Calculated N-utilization based on
  - Amount of slurry per hectare
  - Slurry composition
  - Weather data
    - Danish Meteorological Institute
    - Local weather station

# What is the value for the farmer?

- Most important tool in precision farming
  - More precise application between fields
  - Higher value than precision farming within the field!
- Important tool for making "dynamic fertilizer planning" easy
- Satisfying, that the fertilizer plan actually reflects reality
  - Makes the fertilizer plan an active tool
  - Not just a piece of paper in the drawer

# Challenges for implementation

- Data standardization between manufactures
  - ISO-XML and AgriRouter have made things easier
- Data collection and transmission from slurry trailers
  - Flowmeters doesn't mean, that data is collected and stored
- NIR- and NMR-sensors are not reliable yet
- Dynamic fertilizer planning is a new way of thinking for farmers and advisers





Thanks for your attention...

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