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COST Action CA20103: **B**iosecurity **E**nhanced **T**hrough
Training **E**valuation and **R**aising Awareness

WG1 – PIG SUB-GROUP, CURRENT STATUS OF
BIOSECURITY LEGISLATION IN THE EUROPEAN PIG
SECTOR

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Objectives

1. Understand how biosecurity measures are applied in pig production systems across Europe

- ❖ Biosecurity measures mandatory by law
- ❖ Biosecurity measures mandatory by industry

2. Map the implementation of biosecurity measures in pig holdings

- ❖ Percentage of farms implementing a certain biosecurity measures



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Materials & methods

Participatory approach



Biosecurity measures (external n=32 and internal n=19)

1. Mandatory by law

=> yes / yes, to some farms / no

2. Mandatory by industry

=> yes / no

Data sources on **implementation** of biosecurity measures (compliance)





Materials & methods

	Biosecurity categories	Number of measures in the category
External biosecurity	The farm location and environment	2
	The access and control of visitors	8
	Workers and foreign labor	3
	Purchasing policy – introducing new animals	6
	Purchasing policy – introducing animal products	1
	Introducing equipment	1
	Control of transport vehicles	5
	Manure removal	1
	Control of feed and water	2
	Pest control	2
Internal biosecurity	Cadaver management	1
	Cleaning and disinfection	9
	Handling sick animals	2
	Disease management	8
	Total number of measures	51

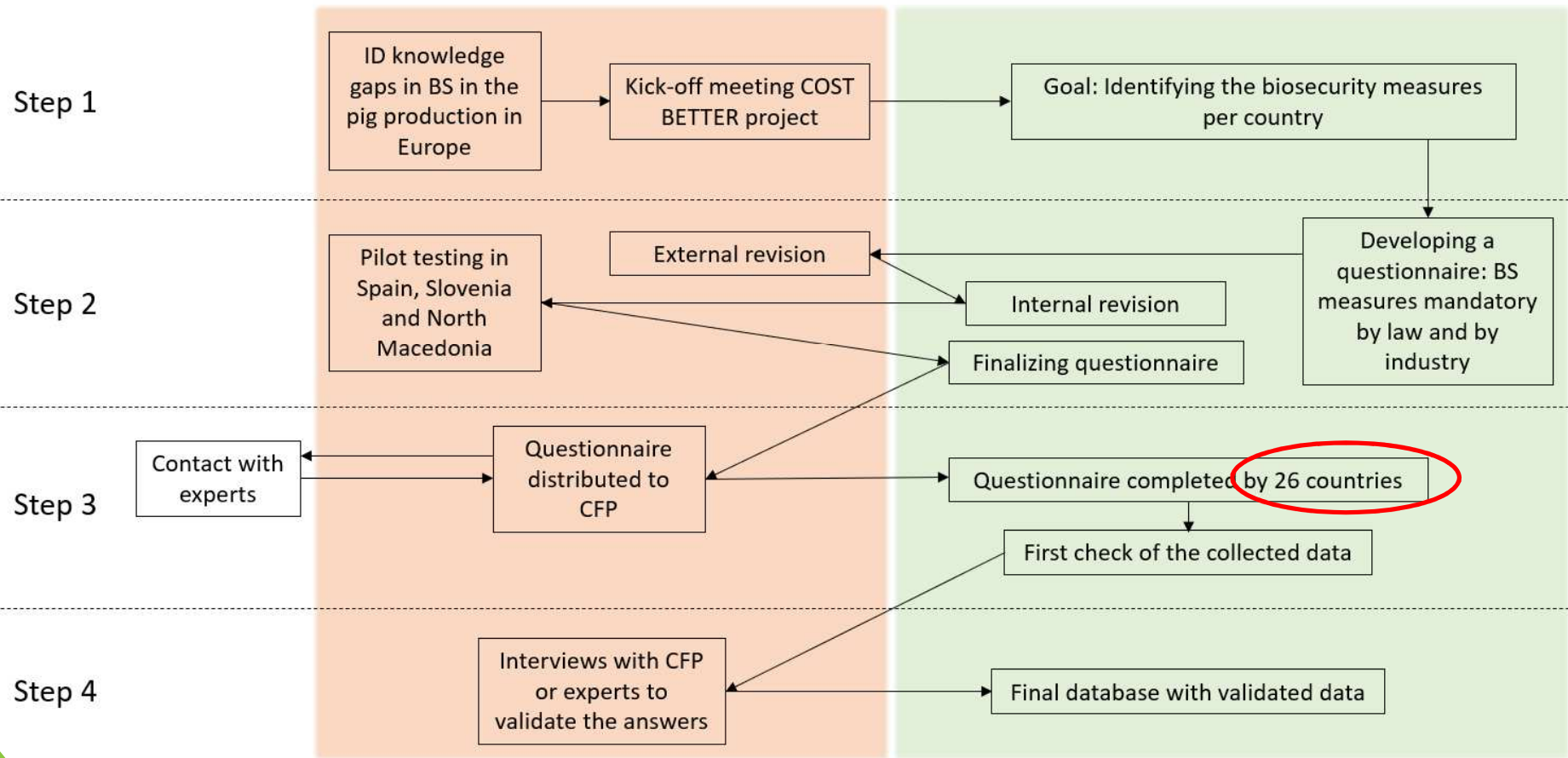




Materials & methods

COST Action BETTER Consortium

COST Action BETTER research team





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Results

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Number of countries	
Submitted excel file	26
Validation meetings	
meeting online	25
via email	1
Data validated	25
Analysis	25



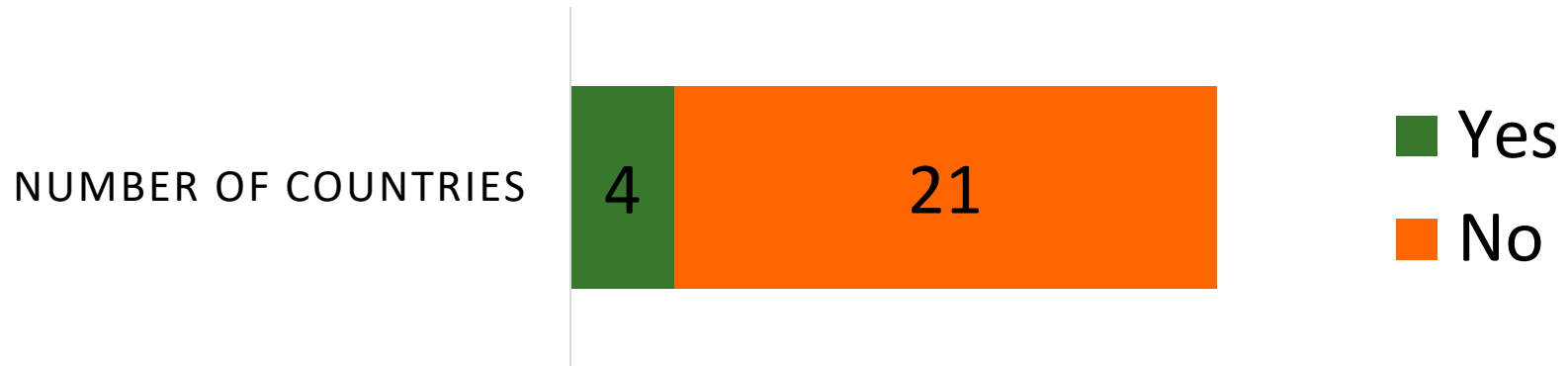


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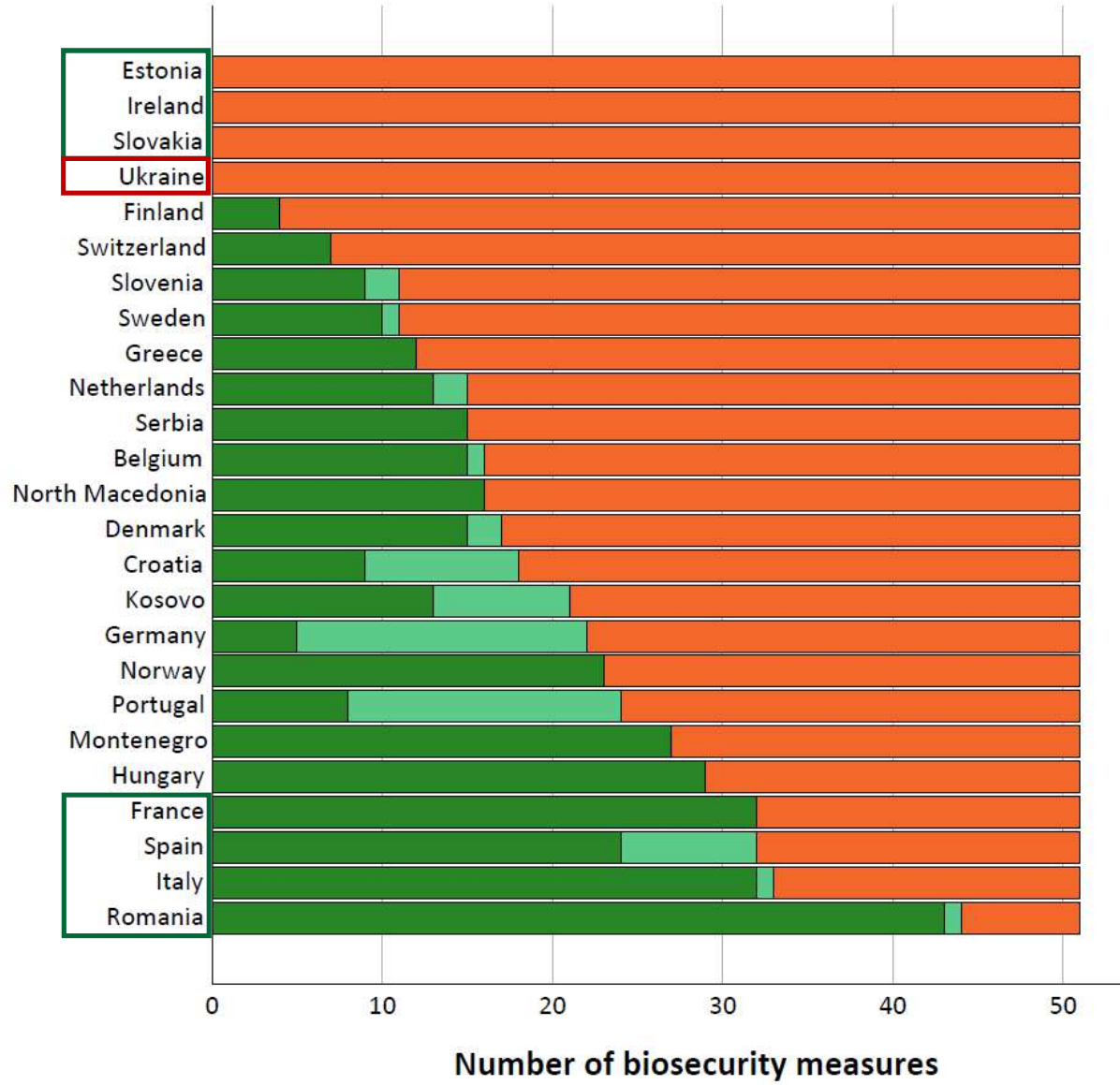


Results: mandatory by law

❖ Presence of ONE national biosecurity legislation



Country	Legislation in force since	Number of BS measures addressed
France	2018	32
Spain	2020	32
Italy	2022	33
Romania	2023	44



Mandatory by law:

- Yes
- Yes, to some farms
- No



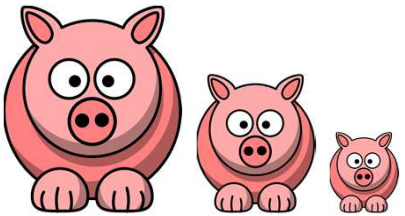
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Results: mandatory by law



		Number of biosecurity measures addressed in the legislation		
		Median	Min	Max
EU-countries		16.5	0	44
EU-candidate		15.5	0	27



		Number of biosecurity measures addressed in the legislation		
		Median	Min	Max
Large pig producing ¹		22	15	33
Medium pig producing ²		12	0	44
Small pig producing ³		16	0	27

¹ ≥ 5.75 million live pigs in 2022 = Q1

² 5.75 – 0.68 million live pigs 2022

³ ≤ 0.68 million live pigs in 2022 = Q3

Source: Eurostat

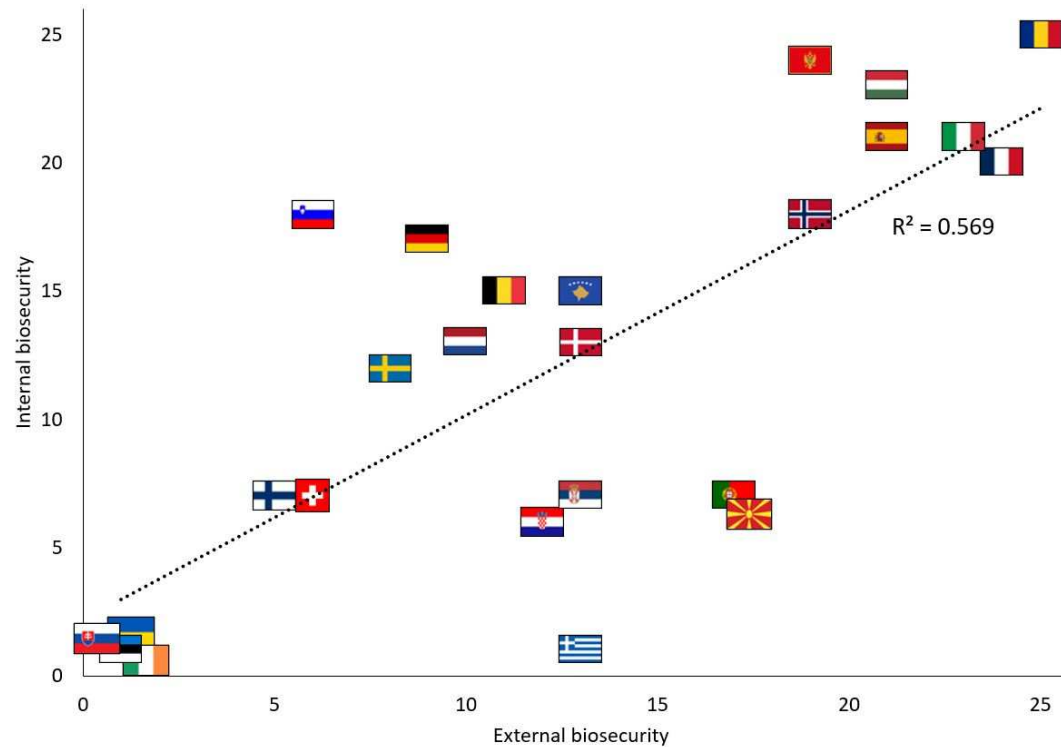


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Results: mandatory by law

- ❖ More focus on internal compared to external BS measures => significant correlation



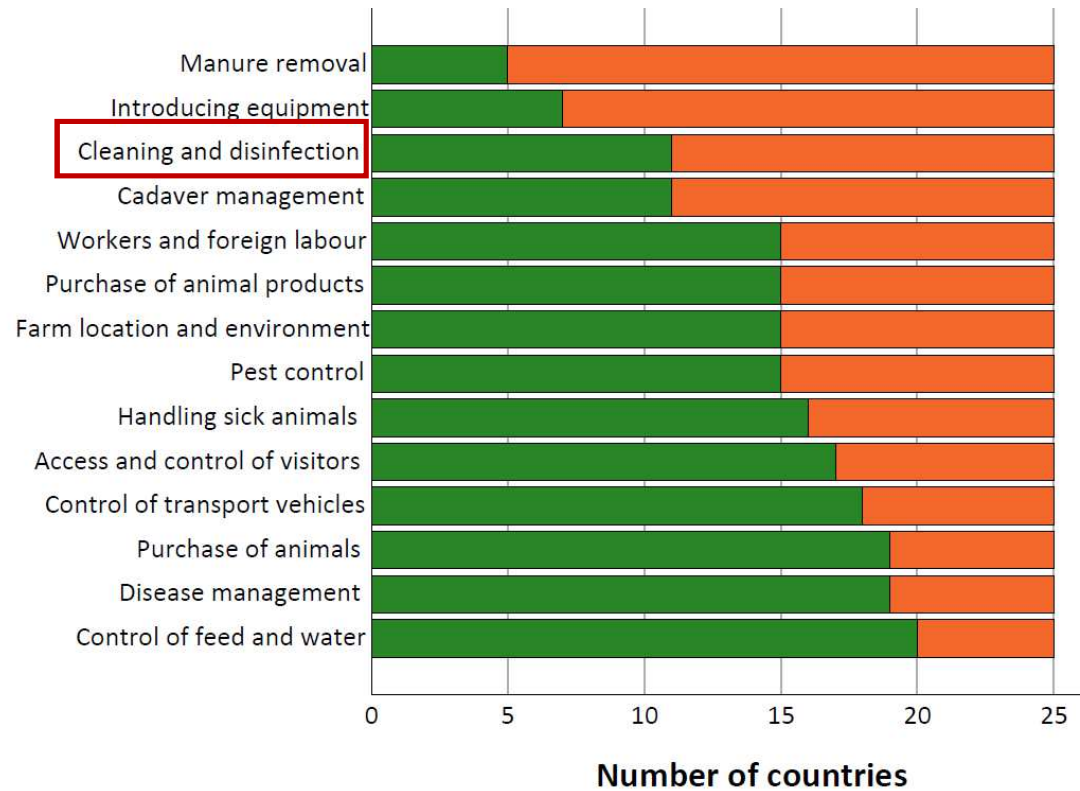


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Results: mandatory by law

❖ More focus on internal compared to external BS measures
=> significant correlation

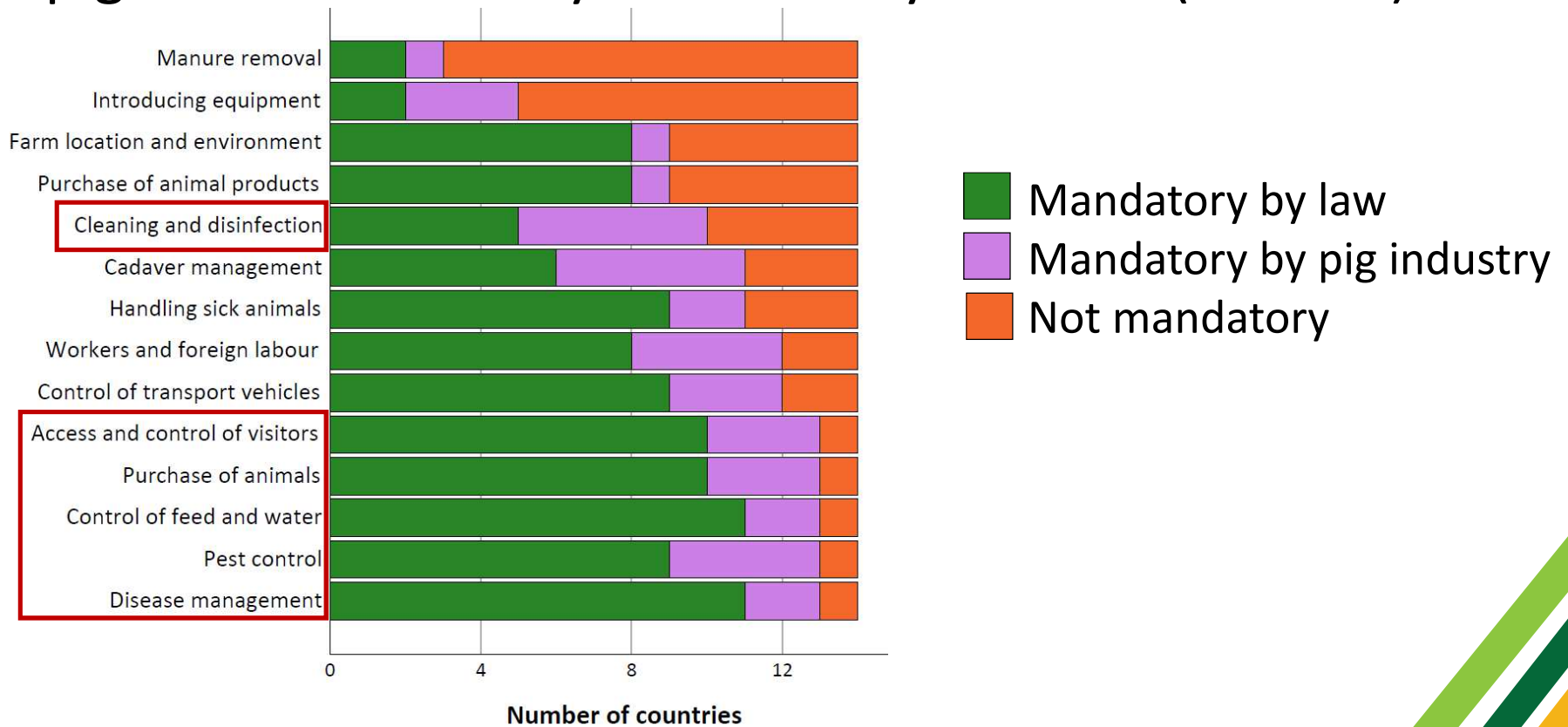


Mandatory by law:
■ Yes
■ No

Results: mandatory by industry

❖ Data received from 14 countries

=> % of pig farms covered by the industry variable (50-95%)





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Results: implementation of biosecurity

- ❖ Data received from 11 countries
- ❖ Country with more than one input => weighted average
- ❖ Large variety in type of data:
 - Origin: peer reviewed / national data collection/ internal report
 - Number of farms: between 8 and 18,824
 - Time frame: between 2000 and 2023
- ❖ Limitations:
 - No extra literature search done
 - Data from before the implementation of a biosecurity legislation
 - Farms might be counted twice (in different studies)



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Results: implementation of biosecurity

Country	Number of farms	Type of farms	Time frame	Farm selection	Reference/data origin
Belgium	1487	Farrow-to-finish	2022-2023	Mandatory	National data collection
Denmark	152	Mixed types	2015	Random	Kruse et al., 2020
Estonia	54	Mixed types	2015-2017	Random	Viltrop et al., 2022
Finland	788	Mixed types	2022	Mandatory	National data collection
Hungary	52	Farrow-to-finish	2011-2012	Convenience	Ózsvári and Búza, 2015
	19	Farrow-to-finish	2020-2021	Convenience	Sipos-Szabó, 2021
Ireland	176	Farrow-to-finish	2019-2023	Voluntary	National data collection
	22	Farrow-to-wean	2019-2023	Voluntary	National data collection
	18	Weaner farm	2019-2023	Voluntary	National data collection
	135	Fattening farm	2019-2023	Voluntary	National data collection
Montenegro	10	Nucleus farms	xxx	Random	Personal data from CFP
Portugal	228	Mixed types	2018-2019	Random	Internal report
Serbia	8	Farrow-to-finish	2017-2018	Voluntary	Prodanov-Radulović et al., 2018
Spain	172	Farrow-to-wean/finish	2000-2001	Convenience	Casal et al., 2007
	100	Farrow-to-wean/finish	2008-2009	Convenience	Simon-Grifé et al., 2013
	18,824	Mixed types	2016-2018	Convenience	National data collection
Sweden	174	Mixed types	2018-2019	Voluntary	Petterson et al., 2021



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Results: implementation of biosecurity



Biosecurity measure	Country										
	Belgium	Denmark	Estonia	Finland	Hungary	Ireland	Montenegro	Portugal	Serbia	Spain	Sweden
Pig farm location and environment											
Minimum distance to a neighboring farms.	49.3			86.9	21.1	97.2	0		0	77.0	
Fencing around the pig farm is complete.	47.4		59.3	20.9	90.9		80.0	86.4	100	82.2	
Access and control of visitors											
"No access" or "Entry for unauthorized persons prohibited" signs are present and clearly visible at the farm entrance.							50.0		100	62.2	
Visitors are obligated to register before entering the stables.	99.3			34.4	92.3	99.5	50.0	14.5	100	44.0	
A pig free-period is requested for all visitors.	26.6			68.9		97.3	0	13.2	100		
The entrance to the farm through the hygiene lock.	43.8		75.9	88.3	96.2	62.4	70.0	95.6	75.0		
There is a clear separation between the dirty and the clean area in the hygiene lock.	43.8			67.8	96.2	21.8	70.0	80.7	37.5	27.0	
Visitors use farm specific clothing or disposable coveralls in the farm.	97.8		92.6	98.5	96.2	95.9	50.0	94.7	100	83.7	
Visitors use farm specific boots or overshoes in the farm.	98.7		92.6	99.6	96.2	96.4	50.0	97.4		83.7	
Information on the biosecurity procedures of the farm is available for all visitors.					92.3		10.0		100	20.0	
Employed workers and foreign labor											
Farm-specific clothing and boots are available for every employee.				82.2	96.2	14.9	80.0	94.7	100	88.0	

% of farms implementing a certain biosecurity measure



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Conclusion

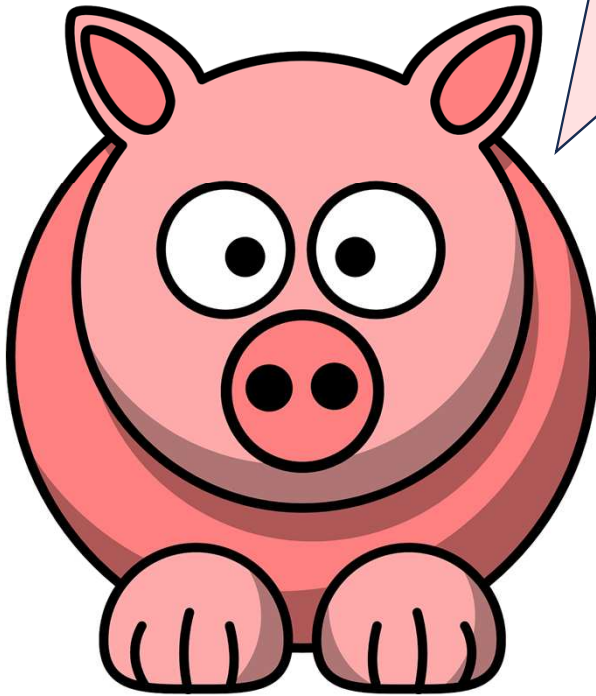
- ❖ Variation in the presence of national BS legislation
no legislation vs. scattered around vs. one national legislation
- ❖ Countries with one national BS legislation for pigs are EU-countries
- ❖ No clear difference between EU-countries and EU-candidate countries
- ❖ In large pig producing countries more BS measures are regulated by the legislation
- ❖ Legislation focusses more on external BS measures
- ❖ Industry stricter on BS measures compared to national legislations



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Thank you!



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