



THERMOEYE

HEALTHY ANIMALS • HEALTHY FOOD

True alternative to preventive antibiotics in animal production.

by



SMART
SOFT
SOLUTIONS

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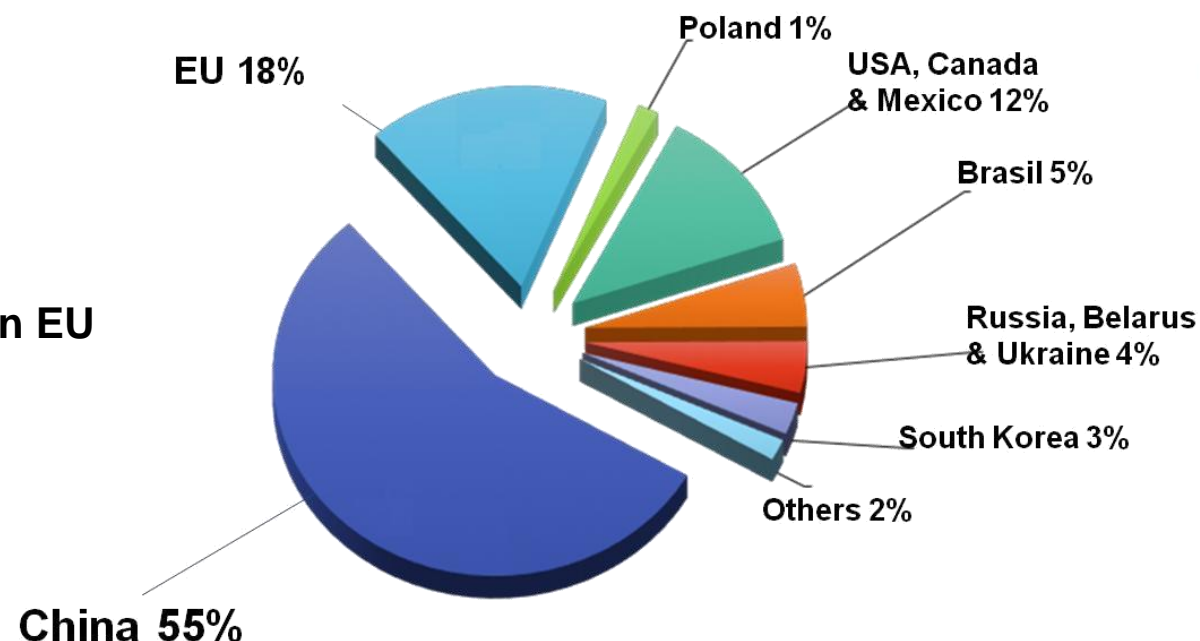
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Snapshot: pork market

Pork market in EU is
worth over 21 billion euros

Poland is in top 5 pork producers in EU

Poland and EU are fighting against
African Swine Fever

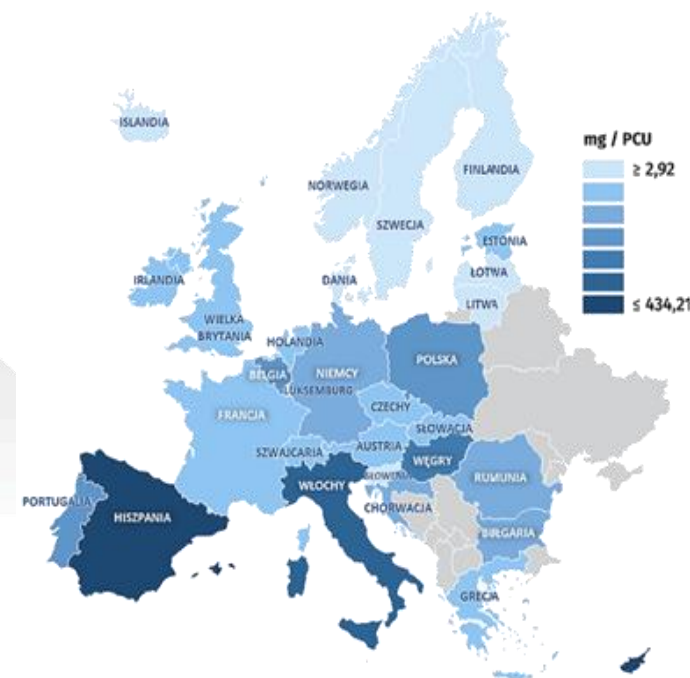
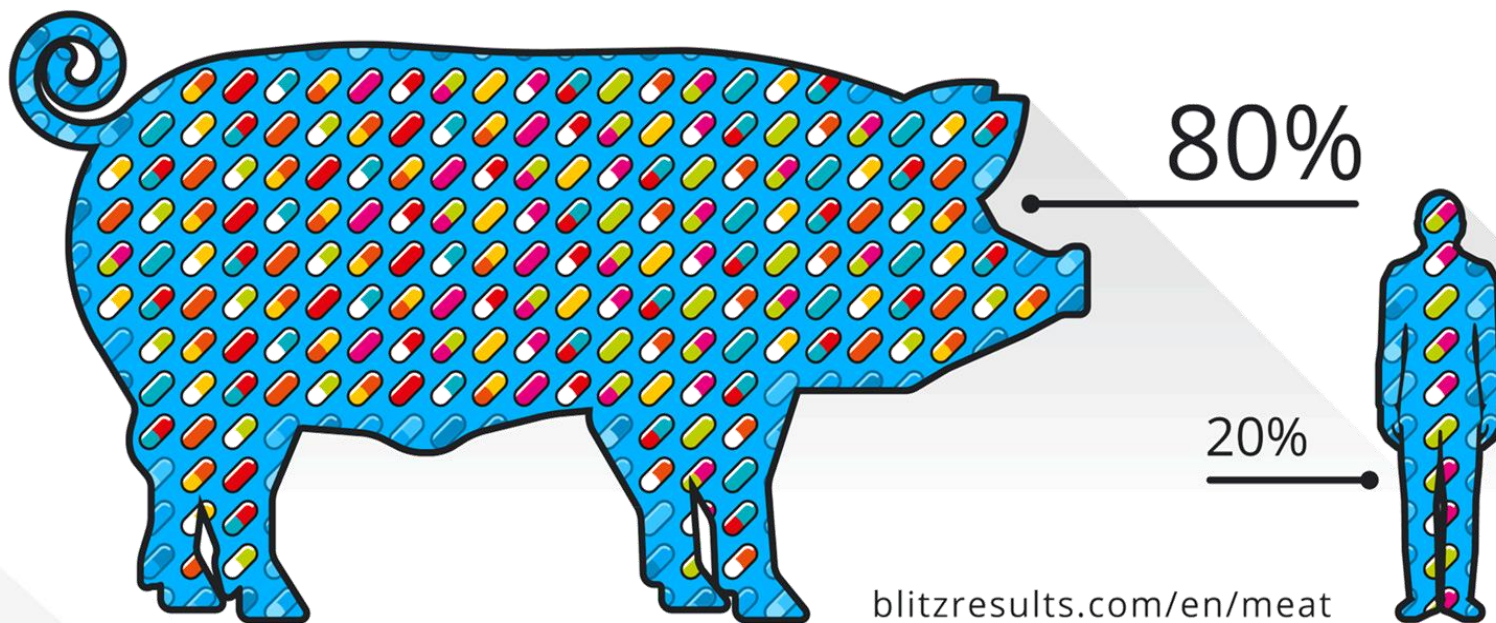


Global Pork Market: over € 120B

= 769⁺M pigs * €150 per pig



AntiMicrobial Resistance (AMR) is a problem



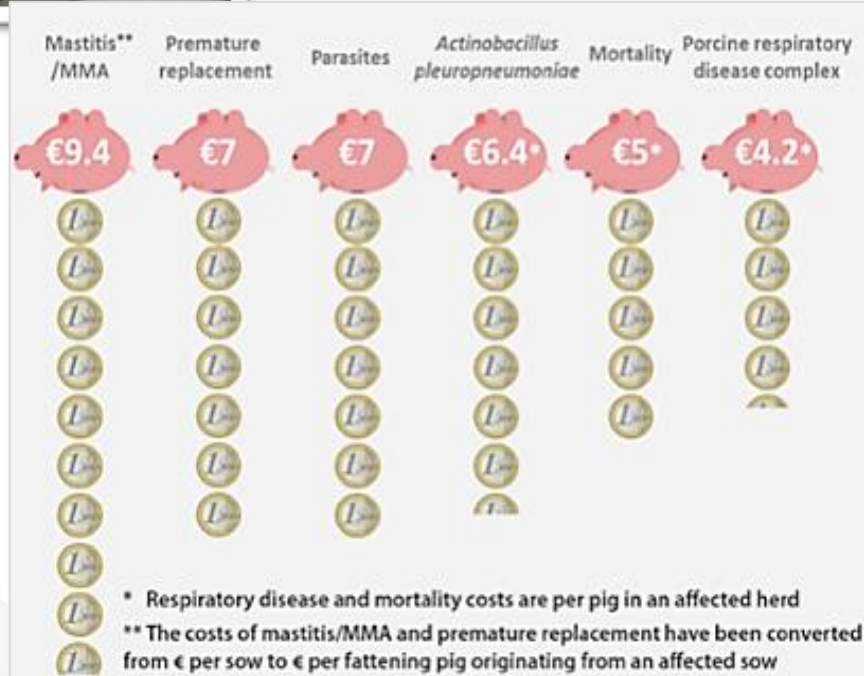
The European Parliament's **banned preventive antibiotic use on farms** from 2022. (Oct 25, 2018)

Animals in factory farming are prone to illness

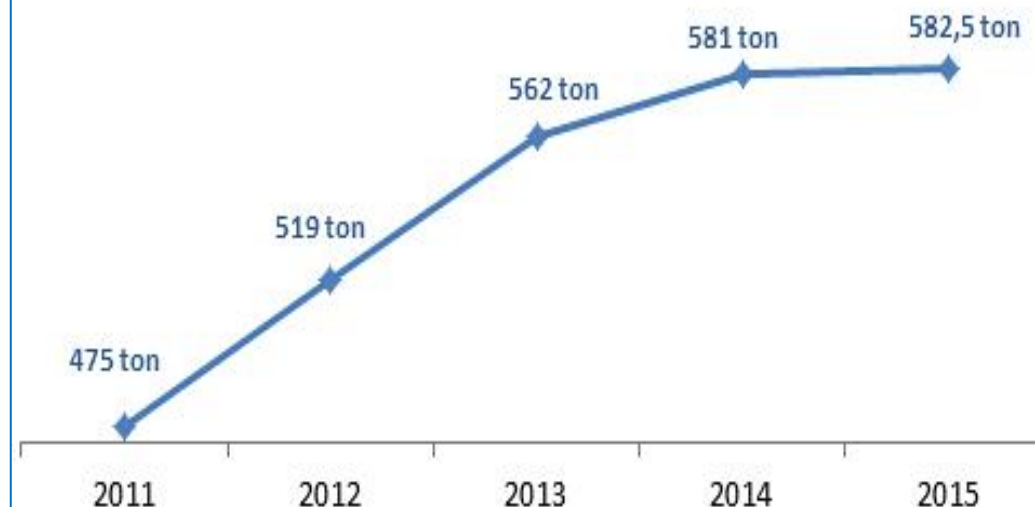


Over **€5B losses** globally
caused by illnesses in pig herds

Only in Poland farmers used
582 tons of antibiotics **a year**



Sale of veterinary antibiotics in Poland in 2011-2015 (GUS)



ThermoEye's alternative to preventive antibiotics

- ✓ ThermoEye measures temperature of every animal in the herd and in case of anomaly marks suspected animal and immediately informs breeder about accident.
- ✓ Measurement is automatic, contactless and systematic.
- ✓ Data of every animal are stored for further processing in the cloud.
- ✓ Device can be mounted to feeders, sorting gates, weights or other infrastructure.



Antibiotics use reduction

- Antibiotic use reduction by 50%
- Targeted treatment
- Reduction of antibiotics antimicrobial resistance

Better biosecurity

- Contactless remote monitoring
- Regular temperature measurement
- Monitoring of every single animal in herd

Increasing competitiveness of farming

- Lower FCR (feed conversion ratio) (-5%)
- Animal husbandry savings (-10%)
- Lower death ratio (-20%)

ThermoEye operating principles

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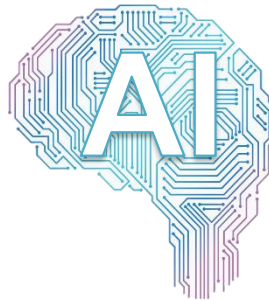


IoT

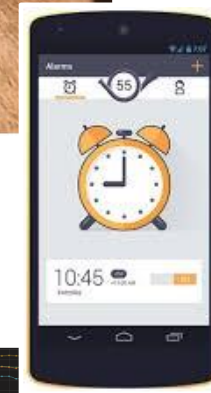
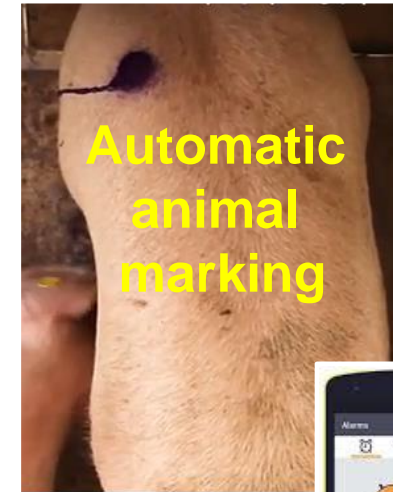
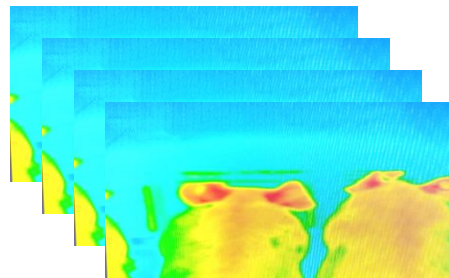
**Big Data
processing**



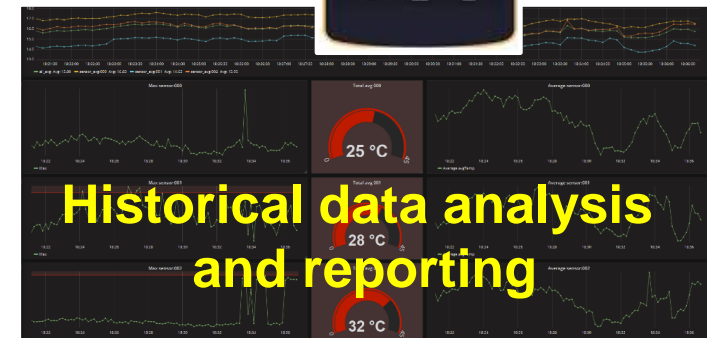
**Artificial
Intelligence
Analysis**



**Real time
temperature monitoring
using distributed
bolometric sensors**



**Immediate
Notification**



Our value propositions

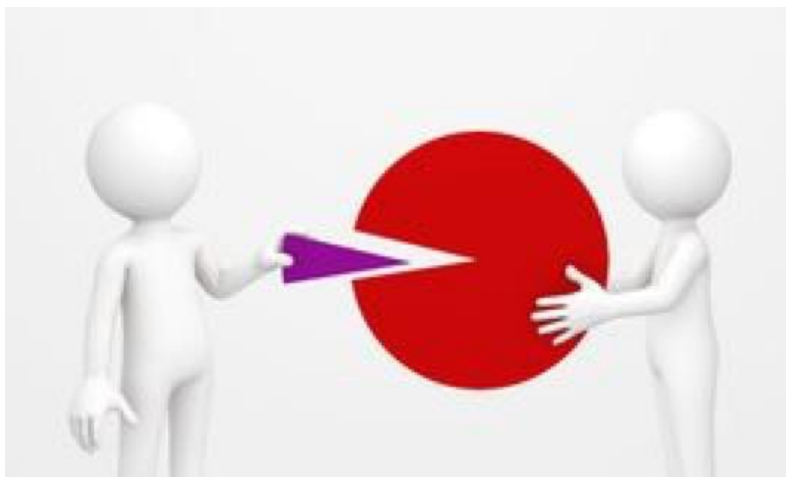
THERMOEYE IS A '3 X WIN' SOLUTION

PIGS BREEDERS	VETERINARIANS	END CUSTOMERS (YOU AND ME)
<ul style="list-style-type: none">✓ EARLY ILLNESS DETECTION IN THE HERD✓ SUSPICIOUS ANIMALS ARE MARKED IMMEDIATELY✓ FULLY AUTOMATIC MONITORING 24/7✓ PORK PRODUCTION IMPROVEMENT✓ MORTALITY AND ILLNESS SPREADING REDUCTION✓ PRODUCTION RISK AND COST REDUCTION✓ NO INTERFERENCE IN ANIMAL BODY <p>ASF early detection</p> <p>PORK PRODUCTION IMPROVEMENT</p>	<ul style="list-style-type: none">✓ EARLY ILLNESS DETECTION IN THE HERD,✓ FAST REACTION✓ NEW TREATMENT METHODS✓ ILLNESS SPREADING IN REGIONS CONTROL <p>MORE AND BETTER MONITORED ANIMALS</p>	<ul style="list-style-type: none">✓ ANTIBIOTIC-FREE MEAT✓ LESS ALLERGIES✓ ANTIBIOTIC RESISTANCE✓ HIGHER PORK QUALITY✓ LOWER MEAT PRICE✓ FOOD CHAIN TRACK <p>AMR REDUCTION</p> <p>HEALTHY FOOD</p>

Business model

Farms with **more than 1000 pigs**
with standardized infrastructure

+10k farms in EU



Break Even Point:

Monitoring +100k animals

0.01% of global population

or

1% of Polish population

Team



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Our traction up to date:

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- ✓ **+2y experience, low cost solution, adaptability, system's flexibility,**
- ✓ **Successfully tested in real environment,**
- ✓ **Patent pending solution, PCT (#P.424706),**
- ✓ **Cooperation with industrial resellers,**
- ✓ **Tested at fairs in: Dubai, Hannover, Bucharest,**
- ✓ **Cooperation with Lodz University of Technology (technology) and Poznan University of Life Science (veterinary),**
- ✓ **Financial backing of the AgriTech Hub and Simpact VC.**

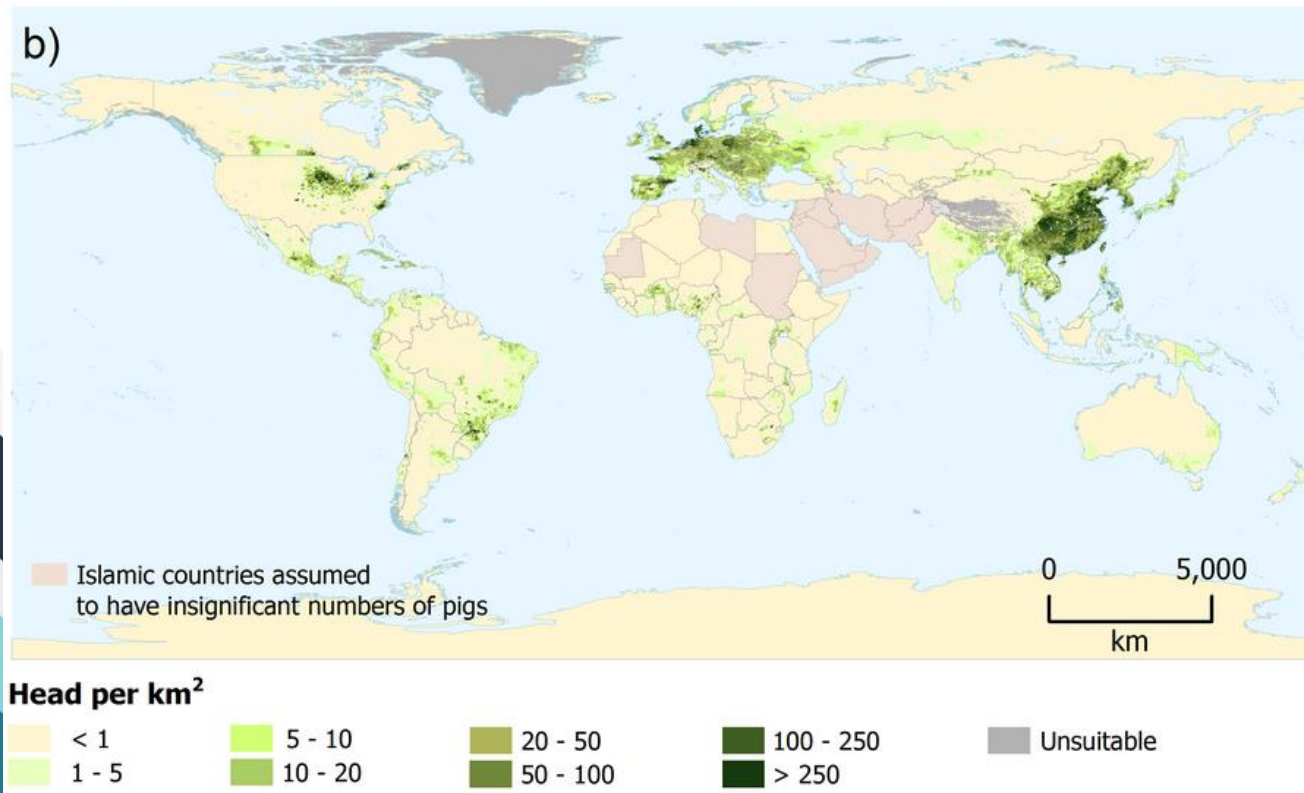


AgriTechHub



Our focus is on the biggest pork producers, as well as infrastructure manufacturers and distributors

DEMAND FOR MEAT IS EXPECTED TO RISE 73% BETWEEN 2010 AND 2030 (UN Food and Agriculture Organization)



[WH Group](#), China, 1.111 million sows
[CP Group](#), Thailand, 544,000 sows
[Wen's Food Group](#), China, 500,000 sows
[Triumph Foods](#), U.S., 408,000 sows
[BRF](#), Brazil, 380,000 sows
[NongHyup Agribusiness](#), South Korea, 280,000 sows
[Cooperl Arc Atlantique](#), France, 250,000 SOWS
[The Maschhoffs](#), U.S., 218,000 sows
[Seaboard Corp.](#), U.S., 217,000 sows
[Vall Companys Grupo](#), Spain, 195,000 SOWS

And our BIG DREAM

Elimination of antibiotics in meat production.

So that, our children can enjoy fresh and safe meat, just like our grandparents did.



Company goals:

- Monitoring at least 1% of global pig population by 2024,
- Limiting use of antibiotics in monitored herds by 50% by 2022,
- Providing healthy meat at unchanged, or lower price,
- Increase FCR by 5%.

You are warmly invited to join us!

We are looking for:

1. Big pork and sows producers,
2. Pig infrastructure manufacturers (PIMs),
3. Investors (smart capital with connections to the PIMs).

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Thank you for your attention!
We looking forward to doing
business with you!



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Back-up Slides

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Market analysis

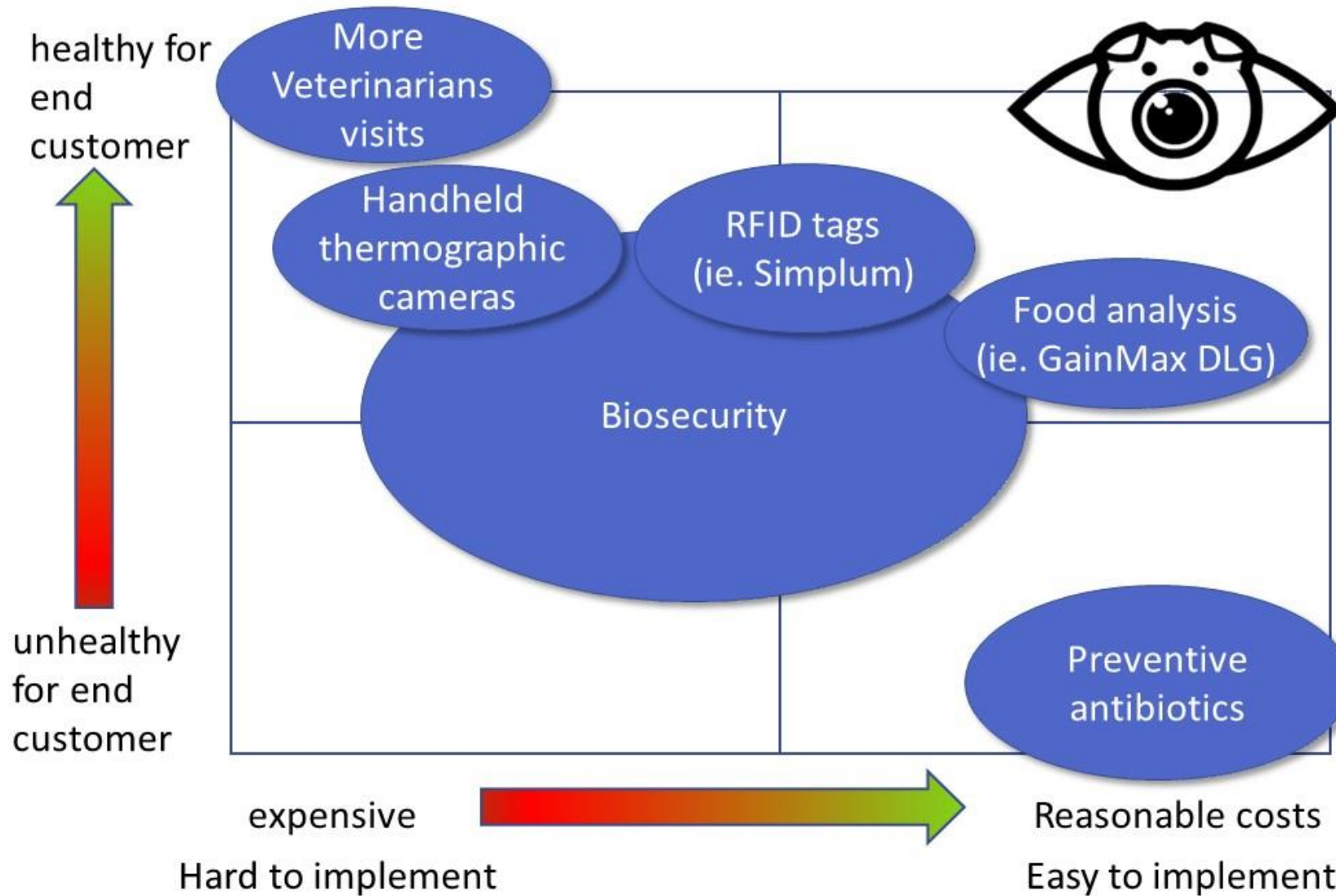
	Pigs (Pork meat) 	Chicken (Poultry meat) 	Cows (Bovine meat) 
Market Share	30,4%	41,5 %	24,5%
Meat production in EU	52 % (22.1 MT)	28 % (12.0 MT)	18 % (7.4 MT)
Cost of single animal	€150	€ 3	€ 1500
Ways of breeding	Pens (~50)	Open, huge cages (2000+)	Open, individual
Weight	120-150 kg	1.8-2.8 kg	750-900 kg
Average cost of kg meat	€ 2.84	€ 1.63	€ 5.35
Breeding time	6 months <div>Lack of solutions</div>	1.4 months <div>Hard to mark</div>	18 months <div>A lot of solutions</div>

- Pigs breeding is **important market** in EU (including Poland)
- Individual monitoring systems like **RF tags are too expensive for pigs**
- **Food analytical systems** are too slow (response after 2 days)
- **Pigs are living in cages**, not in open spaces (like chickens or cows)
- Chicken are too fast for further identification

<https://www.caterwings.co.uk/caterers/meat-price-index/>

<https://www.nationalchickencouncil.org/about-the-industry/statistics/wholesale-and-retail-prices-for-chicken-beef-and-pork/>

Competitive landscape



Deal for breeders (our current model)

€ 300 / year / device

TO MONITOR TEMPERATURE OF EVERY PIG IN HERD



GENERATING € 1/PIG/MONTH SAVINGS FOR BREEDERS BASED ON:

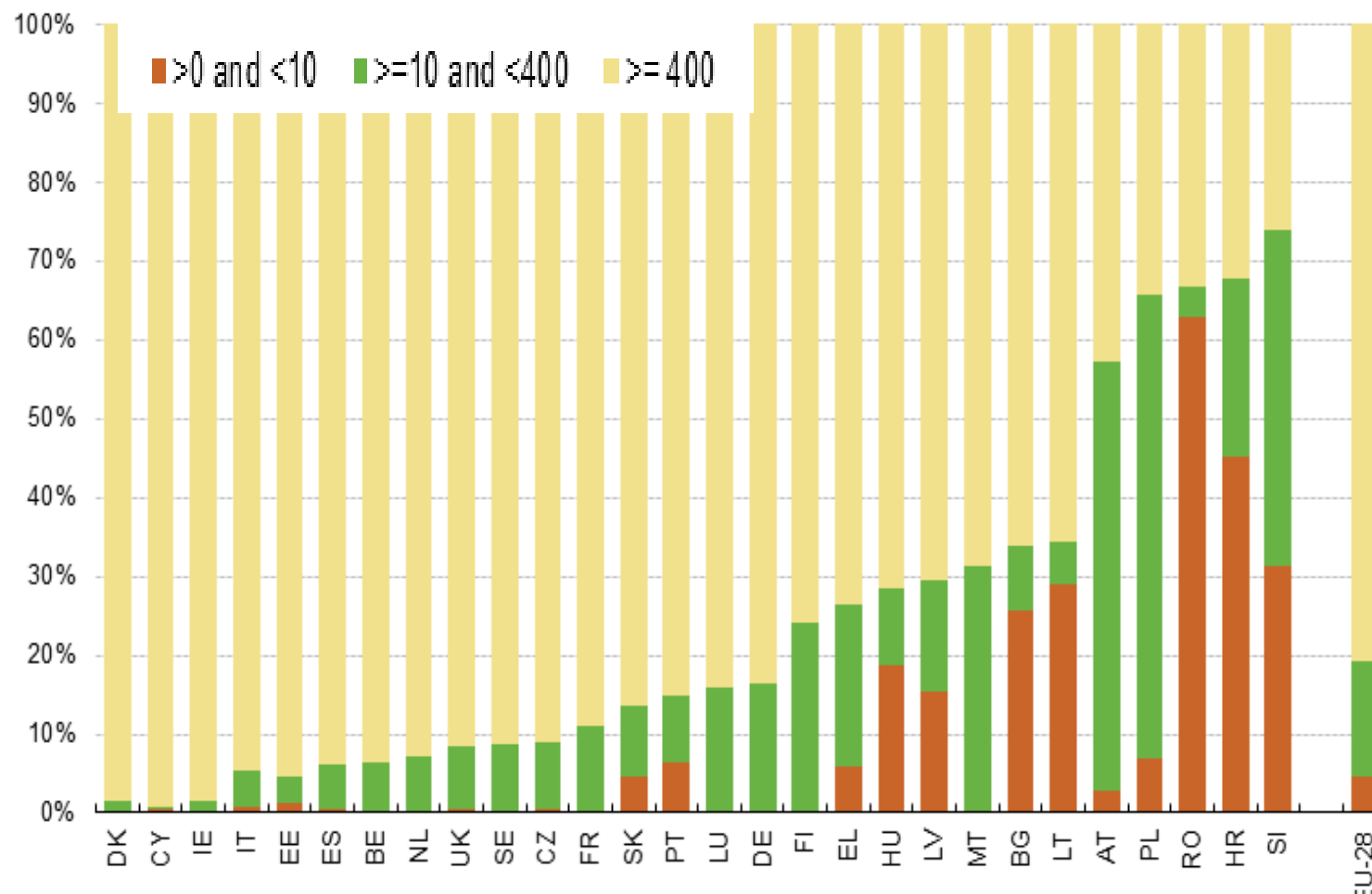
- FEED COST REDUCTION,
- REDUCTION OF ANTIBIOTICS,
- REDUCTION OF FARMING COSTS
- REDUCTION OF FALLS



THANKS TO EARLY ILLNESS DETECTION

**Initial infrastructure cost: € 1000 €/ cage,
return in <18 months**

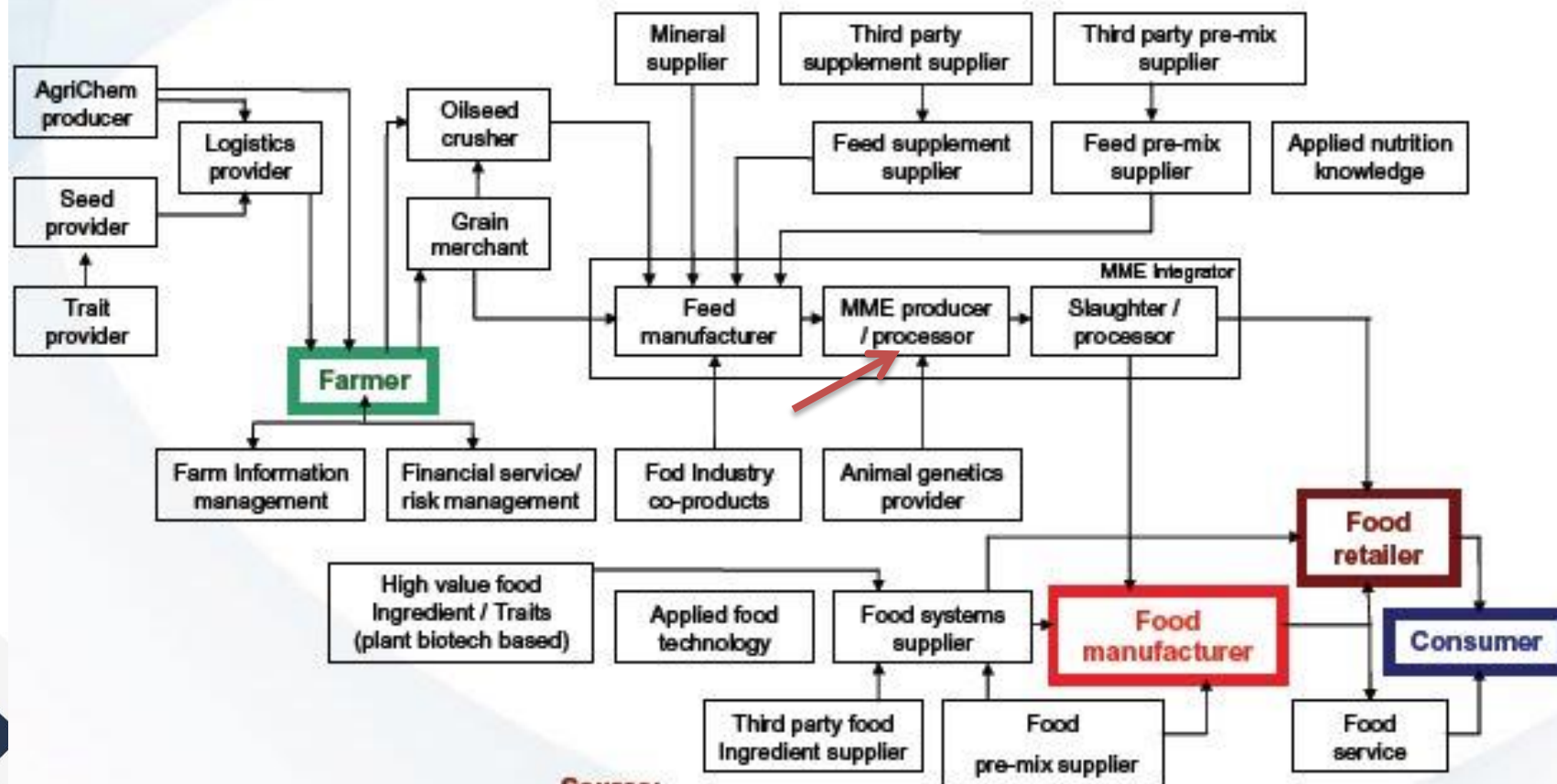
Distribution of numbers of pigs in the EU's herds



Distribution of numbers of pigs by herd size - Source: Eurostat

Small farms are unprofitable and they slowly discontinue production. Therefore, we shall focus on mid and big farms, as they have uniform systems.

Total Food Supply Chain



Source:
European Technology Platform on Food for Life

From Hog To Hot Dog

A comparison of the pork supply chains in China and the U.S.

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HOG FARMS



CHINA

Pigs typically are raised on small farms that are not sealed off from potential contaminants.



U.S.

Pigs are raised in large, climate-controlled barns to limit contact with animals and humans to reduce disease risk.

SLAUGHTER OPERATIONS



Slaughter methods vary and it's unclear whether pigs are always stunned first so they don't feel pain.

Pigs are typically exposed to carbon dioxide or stunned with electricity so they are unconscious before slaughter.

INSPECTION



Meat production and processing companies are required to have inspectors on site, but inspectors are not present at all times.

Each slaughterhouse and pork-processing facility is required to have federal meat inspectors on hand at all times of operation.

PORK PROCESSING

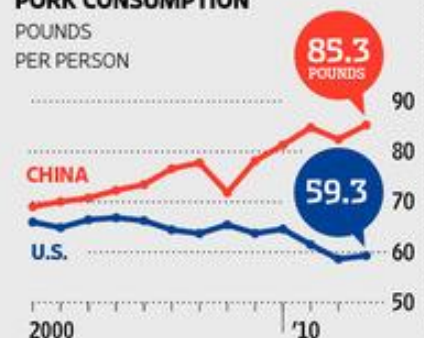


Procedures and standards vary. Larger firms are adding pipes and conveyor systems aimed at ensuring safety.

Processors use automated technology to produce mass quantities of products, limiting human involvement.

PORK CONSUMPTION

POUNDS
PER PERSON



BY THE NUMBERS

70%

Of pork production in 2010 came from farms producing fewer than

500

Hogs a year

87%

Of hogs are raised on farms with

2000+

Hogs