



Co-funded by the
European Union

Market Assessment and Review of the Pig Recording Market

Agri-EPI Centre

[Abstract](#)

This is a desk top review of the current pig recording software market.

Contents

Scope	1
Executive Summary and Conclusion	1
Summary of software companies	2
The Number of Decision Makers	2
Function of pig recording software	2
Route To Market for pig recording software	3
Markets and Market Attractiveness	4
Markets.....	4
Spain	4
Germany	5
France	5
Broader picture	6
Pig populations	6
Consolidation	8
Prevalence of existing software	8
Market size of existing software	8
Market dynamics.....	8
Institutional support.....	8
Software companies	9
Simplum.....	9
AgriSyst.....	9
PigVision	9
Porcitec.....	9
PigCHAMP	12
Data to Decisions – PigCom.....	12
Pig'UP	12
Pigknows	12
Cloud farms	12
Comments on software companies	13
Appendix 1 Pig software companies and capabilities	15

Scope

This is a desk-top – internet review.

The emphasis has been on the pig recording software companies.

It does not cover the use of camera technology which is still at an early or experimental stage.

Executive Summary and Conclusion

There are opportunities for a ‘complete solution’, a more integrated solution than currently exists in the global pig sector where connectivity between software with other systems and sensors is relatively poor.

An integrated system utilising cameras opens the door to individual identification without tags and the recording, monitoring, verification prediction of animal behaviour and animal health. Integration with other sensors, is only constrained by one’s imagination, as sensors are ubiquitous.

The opportunity is large and wide-open currently.

So why has it not been done?

There will be inertia by companies to change, as the ‘pig management software’ is a critical part of many companies management, reporting and reward systems; the output may be integrated into other internal systems -such as accounts packages; that the training that is required is often far greater than imagined; and at all levels within a company people understand the existing reports, and understanding and trust that often has been built up over decades (e.g. PigCHAMP), and that ‘production’ people are often evangelists for ‘their’ software.

What needs to happen?

For growth to occur, it is important that the necessary resources are in place for both the technology and training.

Solve the time consuming, costly, repetitive, error prone data flows by digital integration with with other systems and sensors. Which of these are ‘must haves’ and add significant value to the business?

The ‘complete solution’ maybe a platform that integrates multiple software, reporting and sensors with pre-existing pig management software, thereby avoiding a significant proportion of the new software risk and training risk for companies and allowing easier adoption.

Summary of software companies

There is an accompanying excel spreadsheet comparing systems and the spreadsheet is also shown in: Appendix 1 Pig software companies and capabilities

There are seven major companies in addition to Simplum.

They all have a particular regional focus with several having global presence (market, offices and support).

Because of the market consolidation, the business model, marketing and pricing of any development such as Pig Tracker needs significant forethought.

Changing the pig recording software a business uses, will probably be slow as there will be considerable inertia and embeddedness.

The focus of pig recording software is predominantly the farm(s). There is an increasing need for third party integration – to move to a ‘system of systems’: agritech 4.0.

Some third-party data are crucial financially to the farm: feed, environmental control, marketing and slaughter returns, but are not regularly part of such software.

Some third parties require standardisation of data, e.g., in medicine names (or Marketing Authorisation, etc.); licence to trade (Assurance); legal (movement licences).

There remain huge opportunities for more integrated systems.

The Number of Decision Makers

It is important to consider the number of Decision Makers in each market. For example in the UK whilst there are only some 400k sows, there are only approximately 25 companies that control most of the production, i.e. 25 Decision Makers. In the USA the top largest 40 pig producers own 65% of the sows.

Because of the market consolidation in many countries, the business model, marketing and pricing of any development such as Pig Tracker needs significant thought.

Function of pig recording software

Typically, a management tool for managing the tasks on farm: lists of sows to wean, gilts to mate, animals to check for reproductive returns, etc. Whilst mundane these are important to a farm process that is often structured on a weekly routine, that repeats on a weekly basis in contrast to dairy, beef and sheep that is annular; or poultry that is often in batches.

However, the users of such data are broader than stock people:

- Farm Managers: who will want a summarisation of performance against targets and warnings, and KPI that the business wants to focus on.
- Senior management: want a summary consolidated across farms, e.g., totals weaned, finished, bred, etc., but also the ability to benchmark farms, breeds, sections (farrowing,

mating, growing, finishing), staff (e.g., insemination success, Pregnancy diagnosis success).

- Board: further summary, but also forward looking in terms of output against targets, warnings.
- Third party reporting: increasingly farmers / businesses are being required to report to Assurance schemes, processors, retailers and Governments. This could be compliance with standards, medicines usage, emissions, pig flows (i.e., numbers, timing, weight, coming through the system).

Similarly, software could ingest and interface with data from other sources, such as pedigree and genetic information from breeding companies; feed delivery information with attached metadata about the feed ingredients, carbon footprint, withdrawal period if medicines are included; feeders; data from processors on weight, quality, yield, rejections; and movements off farm to other locations.

Integration with accounts packages is another area of opportunity. Inputs include medicines, feed, water, heat, light and sundries; and outputs include slaughter value of pigs. There needs to be some verification of on-farm data entry, and skills requirement.

Most software is focussed on the day-to-day operational aspects: tasks. Relatively few products integrate information with other systems. The expectation is that this will change to avoid repeat data entry and integration leading to the vision of Agriculture 4.0.

There is also a desire to make use of already entered data and automate routine tasks such as feed deliveries (and provide alerts, e.g., of near empty feed bins, or contact the feed manufacturer. The feed manufacturer could be offering a 'service' of keeping feed bins filled) and 3rd party reporting. Part of this is driven by personnel and skills shortages.

The concept of Agriculture 4.0 where Agriculture 4.0 is like Industry 4.0 where we are describing systems of systems and the farm management software is part of a wider system that includes the environment, market information, pricing, forecasting, etc.

An example of a systems approach is for example with pig movements. Many large, often processing companies are farrowing on one location, with moves of weaners to grower locations, followed by moves to finishing locations. These may be 'controlled' by one company but be on 3rd party premises with 3rd party labour.

Being able to better track batches of animals and forecast numbers of animals and growth rate would improve the flow of pigs into abattoirs. Currently in the UK this process, or marketing of pigs is, a weekly Friday event of producers talking with processors and marketing groups about numbers available for the following week and arranging the often 3rd party transport.

Real time growth and reporting, removing static excel spreadsheets

Route To Market for pig recording software

Historically this has been direct to farmer, often with quite low margins and about farms tasks.

In more integrated supply chains, a supply chain view of the business is important and integration with other software. There will be inertia to change from a known product to a new product. This will require training at all levels, and the need to ensure that integration with other software is addressed, e.g., finance packages.

Are there

Markets and Market Attractiveness

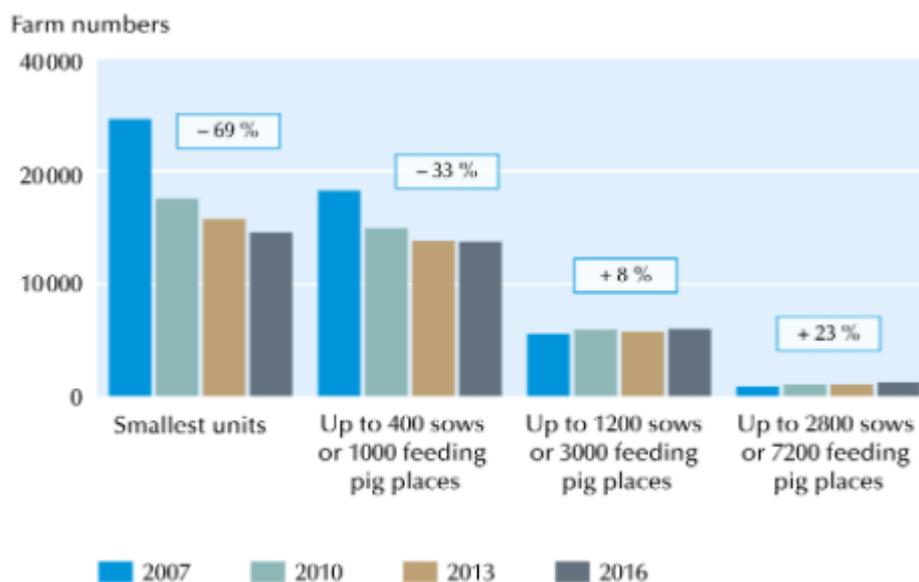
This section is a consideration of Market Attractiveness. The headings are Decision Criteria that could be used to score a country's Attractiveness. An extension of this would be to score markets on these and other Decision Criteria and rank countries.

Markets

There are large markets in China, Europe, the USA, Brazil, etc. In all these markets there have been the loss of smaller producers and gain in larger producers, for example as shown below for Spain. There is an overview of European pig meat sector, [here](#). This provides some useful links into other publications. Another source with greater economic data is from Wageningen University for ABN-AMRO, "A comparison between pig farming in the European Union and North America": [Source](#).

Spain

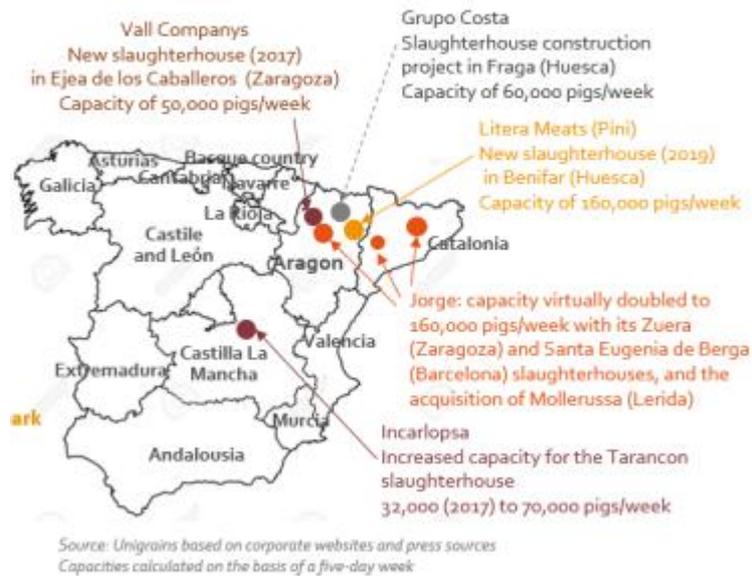
Figure 1 Change in structure, Spain (Source: <https://www.dlg.org/en/agriculture/topics/dlg-agrifuture-magazine/knowledge-skills/pig-production-in-spain-high-integration-and-plenty-space>)



Spain had the largest pig herd in Europe but lagged Germany in slaughter capacity. This has resulted in considerable investment in slaughter capacity, as described in the [Unigrains](#) report:

Figure 2 Abattoir projects in Spain (Source: https://www.unigrains.fr/wp-content/uploads/2019/09/190924_ung_inbref_porkspain.pdf)

Main projects to create pig slaughter capacity in Spain since 2017



Farms: ~86,000

Jobs: ~300,000

Germany

Farms: 20,000

60% of pigs farmed in businesses with > 1000 sows (Source: <https://german-meat.org/fleisch-aus-deutschland-gb/pork.html>)

Companies

Largest: LFD Holding GmbH, Potsdamer SauenHain GmbH, Wittmann See.

There is consolidation in processing and production, with Tonnies, Vion and WestFleisch growing their share of the market from 45% in 2006 to 55% in 2010 (Source: <https://www.foodnavigator.com/Article/2011/12/07/Germany-a-powerhouse-on-pig-production>).

France

Overview, [here](#). 4870 farms between 50 and 150 sows, with 990 > 150 sows. 50% of product turned into charcuterie. 25% fresh (loins) sold fresh 25% exported within EU. Main distribution through 40 producer organisations. Consolidation of slaughtering and the loss of smaller producers and the gain of larger farms has not happened to the same extent as in DK, NL, SP.

Between 2000 and 2010 the average farm size has grown by 98% DK, 37% NL, 29% SP and 16% FR.
([Source](#))

Broader picture

Pig populations

Clearly the Country pig numbers, slaughter capacity, and pig supply chain are all drivers of market attractiveness.

Figure 3 EU Pig Pop (source:https://ec.europa.eu/eurostat/databrowser/view/apro_mt_lspig/default/table?lang=en)

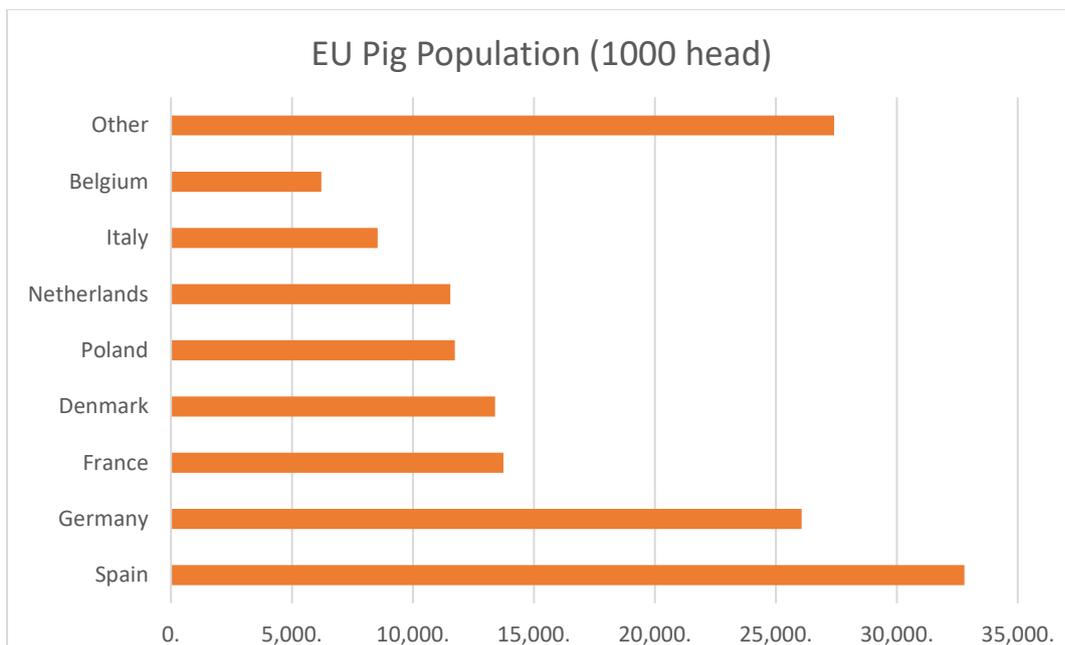


Figure 4 EU main producers (Source: https://agridata.ec.europa.eu/Reports/Pigmeat_Dashboard.pdf)

EU Main Producers (1000 tonnes product weight)

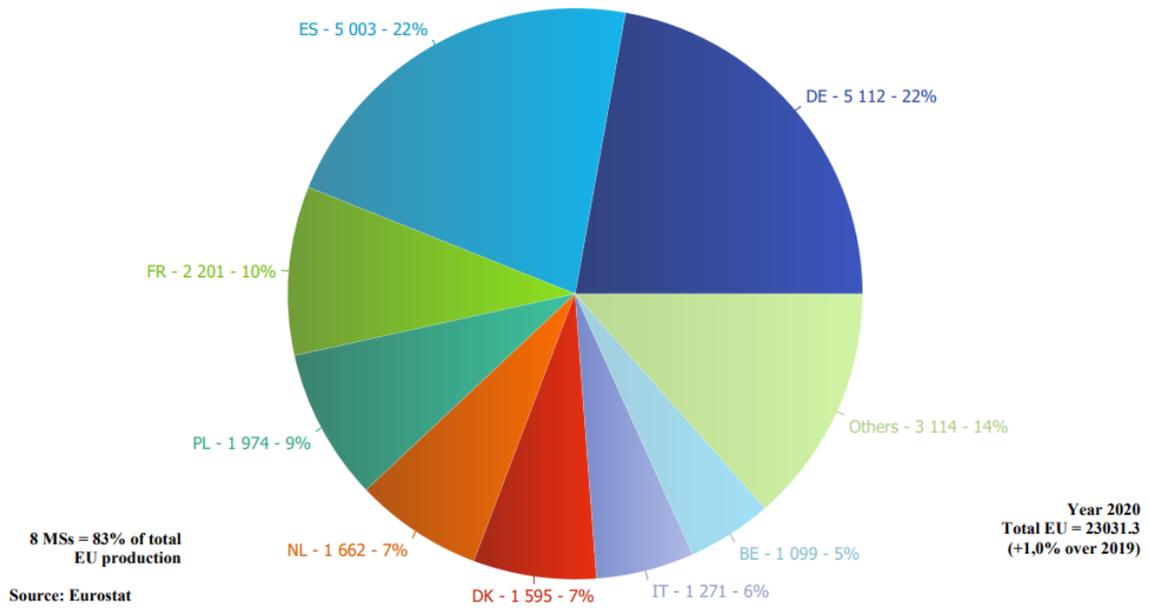
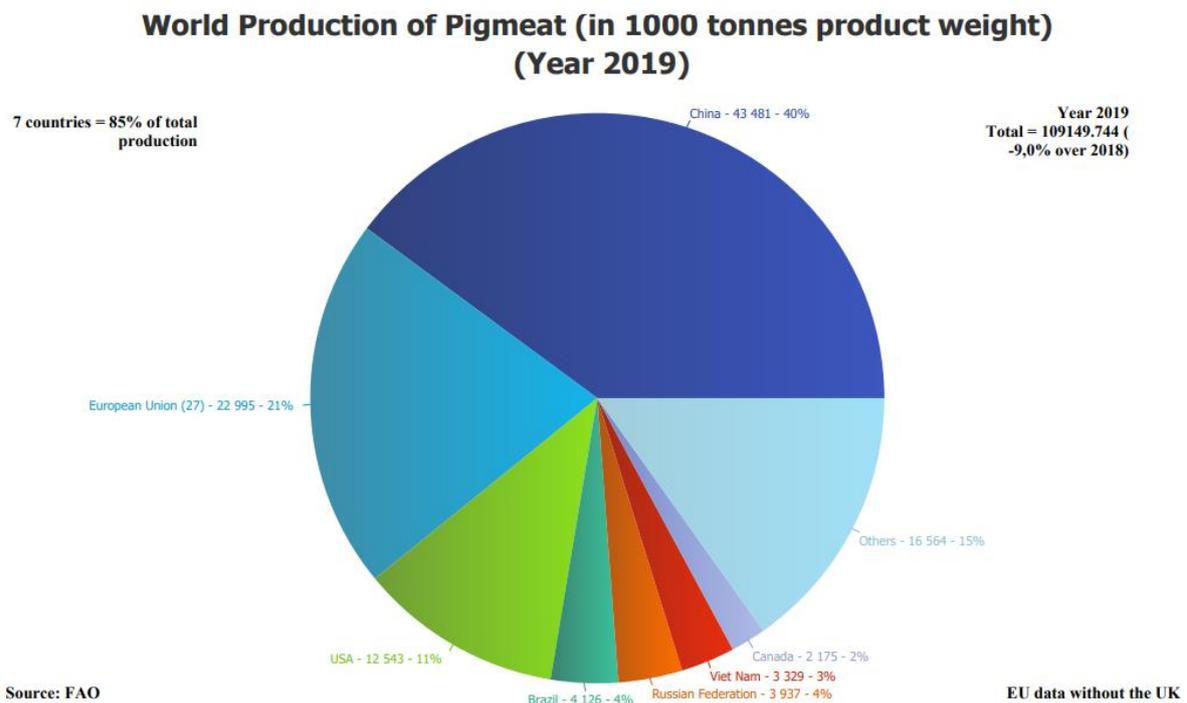


Figure 5 World production (Source: https://agridata.ec.europa.eu/Reports/Pigmeat_Dashboard.pdf)



Consolidation

Whilst some markets are larger than others, there are several caveats. The concentration ratio, i.e., the amount of consolidation that has occurred leading to fewer Decision Makers is useful to consider. Consequently, Spain with higher levels of integration is attractive.

Prevalence of existing software

The pig software market has many players that operate globally. They also often have regional dominance, e.g., Northern Europe Agrovision; Spain Porcitec; France PIG'Up; USA PigCHAMP. Similar to businesses changing their financial recording, asking pig companies to change their pig management recording is not trivial, as there will be the need for considerable personnel training, reviewing of how other software integrates, etc.

Market size of existing software

Some of the companies are significant in size and geographical coverage.

Market dynamics

In an expanding market with new builds, along with everything else a new recording system is more easily considered. Similarly in new buildings the installation of sensors and cameras can be planned for: retrofitting is often not that easy.

Institutional support

Countries vary in their government policy support for farming.

Software companies

There is an attached Excel Spread sheet that compares pig recording software.

Simplum

<https://simplum.com/system/>

Based in Germany and Poland

Significant benefit from use of electronic tags than then interfaces with mobile devices, readers and pen scales. Leads to integration through the system.

AgriSyst

<https://agrisyst.com/en/>

New start up system

Based in The Netherlands and Germany. Some penetration in UK market with Karro.

Only pigs.

Interfaces with Dutch and German abattoir data.

Interfaces with dry and liquid feeders: Weda, Fancom, Kamplan, TEWE, Smits, Hotraco, Big Dutchman.

Versions for consultants and AI (Boar studs)

PigVision

Part of AgroVision

Based in Netherlands, but have a very extensive overseas network including Asia, Africa and the Americas

Also operate across dairy, crop, finance and agribusiness

Provide support for a variety of stick readers and Android mobile handhelds. More details [here](#).

Porcitec

<https://www.agritecsoft.com/porcitec/en/>

Comprehensive system that can operate in the cloud or on a desktop with mobile and other data entry devices.

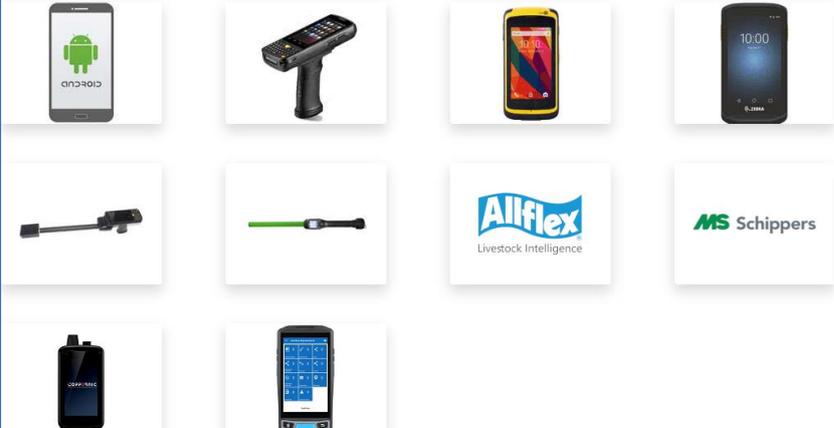
HQ in Spain and USA with additional partners in China, Canada, Taiwan and Spain. Also operate in dairy and beef, sheep and rabbits.

It is used by several large integrators in the USA, Spain, Mexico and Japan.

Can utilise tags, bar codes and QR codes.

Devices and Identification Systems

Use rugged devices, electronic identification, bar or QR codes, ... to improve the data entry.



Electronic Feeding Systems (EFS)

Avoid double entering data. Enter the data once in Porcitech and sync with your EFS, updating the records. Some EFS also allow you to send some data to Porcitech.



Genetics Houses

Send in one click, via Web services, the event history of selected females such as matings, birthings, register progeny, removals to your genetics house. You can also download their data such as a list of available semen and index values.



SSS
DANBRED



DNA
GENETICS



PigCHAMP

HQ USA, other offices / agents: Russia, South Africa, Ireland, Europe, Thailand, Taiwan

One of the original recording systems. Format looks tired.

Interfaces with genetic companies: PIC, Hypor, Topigs; Big Dutchman ESF; batch CSV imports from feed, and slaughter sales summaries from packer; CSV fields from semen suppliers and Minitube export facility.

Data to Decisions – PigCom

<http://pigcom.co.uk/support.aspx>

Access on farm-based software in UK.

Pig'UP

<https://pig-up.isagri.com/contact>

Significant French company ISAGRI. 37 years in business, 2200 employee, 11 subsidiaries across Europe, China and Canada. Twenty software suites for crops and animals.

Over 10,000 companies use the software.

Pigknows

<https://pigknows.com/>

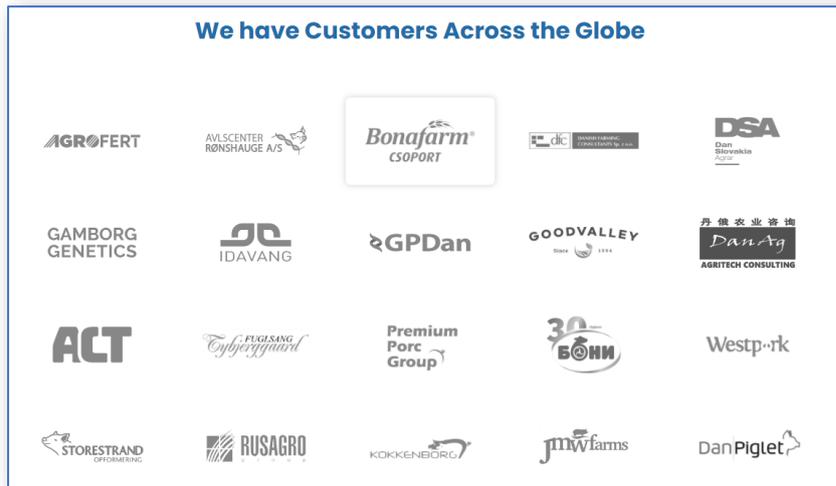
USA based with 2,800 farms 3.5m sows. Teams in USA, Latin America and China.

They also offer a bureau service to enter data

They have some significant users such as Smithfield, Prestage, AMVC, etc.

Cloud farms

HQ Slovakia. Owned by BASF. Present in 40 countries. Personnel across Europe.



Also partner with many genetics and equipment companies: Danbred, Danish Genetics, DNA, Hermitage, Topigs, Darby, Genesus, PIC, Big Dutchman, BoPil, Nedap, Schauer and Weda.

Allows simulation of budgets.

Benchmarking, KPI, ability to share with others

They have an interesting [traceability](#) aspect:

Comments on software companies

- This is a desk-based review utilising information available on the internet, and therefore it is partial. Discussion with individual companies would be beneficial, however there are some indicators.
- The USE: or more specifically here how simple, intuitive, robust is the software to use on a farm, and to provide actionable info to users (farm workers, managers, directors, third parties)? Is the immediate support timely, farmer friendly and knowledgeable of the software and pig production? Is the program development time reasonable?

- Use of software is often regional, e.g., in Northern Europe there is extensive use of PigVision.
- Some of the companies have a significant user base in terms of numbers of farms and the size of their clients (e.g., the pig farmers and corporates).
- The size of the software companies varies; some appear quite small, and are focussed only on pigs, whereas others are significant in their own right – i.e., they have significant resources, e.g., offices around the world.
- Persuading existing businesses and their relationships with software providers to change should not be under-estimated.
- Most companies are now cloud based.
- Most describe the use of tags, but in all cases, it is unclear which types of tags.
- No information on use of sensors, sensors on feed bins, ventilation systems.
- All companies are vague on animal health recording, or whether the medicines use a defined list from authorities in Europe, the USA etc. Free text data entry is not helpful for wider reporting.
- There is little evidence of use of statistics or Machine Learning or Artificial Intelligence. Providing actionable information back to on-farm users is an absolute given. Secondly there is reporting of what has and what will happen (preferably in a timely, focussed manner), e.g., if sows are mated and remain pregnant there mostly will be a farrowing at a predictable known date. Thirdly there is reporting of what may happen, especially around growth rate (and consequently pig flow), feed intake, health. This area remains weak.
- Environmental recording in the building and outside, and gaseous emissions appears poor, especially given that this is an important issue in the environment regulatory landscape and will increase.
- Integration with Third parties is increasingly important. Some of this exists as in commercial relationships – with boar studs, genetics companies, vets, and abattoirs. However, there is no description of Assurance schemes or statutory bodies such as Environment Agencies or Animal Health Agencies. Only Cloudfarm mentioned carbon footprint and antibiotics. One company mentioned APIs (Pig'Up).
- There is some connection with feed deliveries and Electronic Sow feeders. The lack of significant insight into feed and feed usage remains bizarre given that feed is the largest single cost in pig production –(70 to 80%).
- There is no apparent link with electronically generating or accepting movement licences of animals. (A regulatory requirement in Europe).
- There is no foresight or show of future developments by any companies.

Appendix 1 Pig software companies and capabilities

Item	Company							
	Simplem	AgriSyst	Agrosoft	Porcitech	PigCHAMP	PigUP	Pigknows	Cloud farms
Product name	Slide	PigExpert	PigVisions					
website	https://simplem.com/	https://agrisyst.com/nl/	https://www.agrovision.com/products	https://www.agritecsoft.com/porcitech	https://www.pigchamp.com/	https://pig-up.isagri.com/	https://pigknows.com/	https://en.cloudfarms.com/
Focal market	D,PL	NL, D,UK	DK,UK		USA		USA	
Other regions		No	Europe, Asia Africa, Americas		Russia, South Africa, Ireland, Europe, Thailand, Taiwan			
Companies using	?	?	Northern European, DK, UK	Pipestone, Carthage, Grup, Alimenti Guissona, Proan, Global Pig Farms	?		Smithfield, Prestage, AMVC	Sig list of customers
Price	?			480€ + €10 per additional person				
Multi site consolidation across sites			y	y	y			
Authorisations of people using			y					
OCR								
Software	Cloud	Cloud	Cloud	Cloud				Cloud
Hardware								
Platform								
Cloud		y	y	y	y	y		y
desktop		y		y	y			y
server		y		y	y			y
Mobile App		y	y		y	y		y
Sensors								
Camera								
Tags (y/n)	y	y	y		y	y	y	
Tag type		LF or UHF			y			
QR code		?	y			y		y
Individuals ?	y							
Scales and auto id	y							
Reading gate with tags								
Location								
treatments								
Medicine (Free text or standardised list)	y							
Artificial Intelligence?								
KPI		y						
Prioritisation								
Water								
Water level recording	pen							
Building environment								
Temp inside	y							
Temp outside								
Humidity								
light level	y							
Ammonia								
Ventilation								
Alerts								
Third party data integration								
Movement of animals	?	?	?	?	?	?	?	?
Slaughter data								
CSV						y		
AutoFOM	y							
Imports data from?		Dutch & German abattoirs				CSV		
Genetics						Yes		
Data flow?	?	?	Both	?	Import data	?	Yes, but	?
environment								
Data flow?	?	?	?					
Assurance								
Data flow?	?	?	?					
Vets								
Data flow?	?	?	Import data	?	?	?	?	?
Boar stations								
Data flow?	?	Import data	?		Import data			Both
Boar station include CRM (y/n)					y			y
Feed								
Data flow?	?	Import data	Import data		Import data		Import data	
Feed 3rd parties								
Feed recording level	individual							
Electronic sow feeding	Make?	Make?	Make?	Make?	Make?	Make?	Make?	Make?
Roxell ?								
Is there an API?						y		
Other								
Miscellaneous		https://youtu.be/9qVeDuQCeQA Weda, Fancom, Kamplan, TEWE, Smits, Hotraco, BigDutchman	PICTraq					
Partners								