aihen™

Poultry Flock
Management
System

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Agricultural development is one of the most powerful tools to end extreme poverty, boost shared prosperity and feed a projected **9.7 billion** people by 2050.

Currently, in Europe, **7.3%** of all agricultural industry is based on egg and poultry farming.

At the same time, it is known that the poultry flock management sector is not yet technically advanced and only a few organizations use any type of IT systems to manage and monitor their enterprises. **It's time to make a change!**

A recipe for egg-squisite poultry organization:

01

Control.

You are in control of all the processes, because company's data is structured and placed in a centralized store.

02

Awareness.

You are aware of threats and opportunities, due to complete production overview.

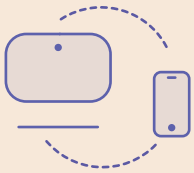
03

Good sleep.

You are able to sleep tight. Even if something does go wrong, you'll be first to know and be able to promptly react.

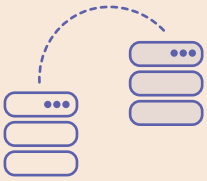
Mix these three ingredients with a little bit of Aihen and you are good to go.

What services does Aihen provide?



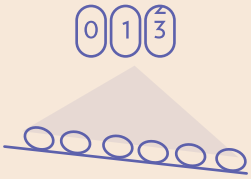
Data gathering and analysis

01



Data migration

02

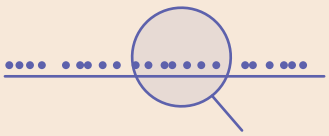


Egg accounting

03

Anomaly detection

04

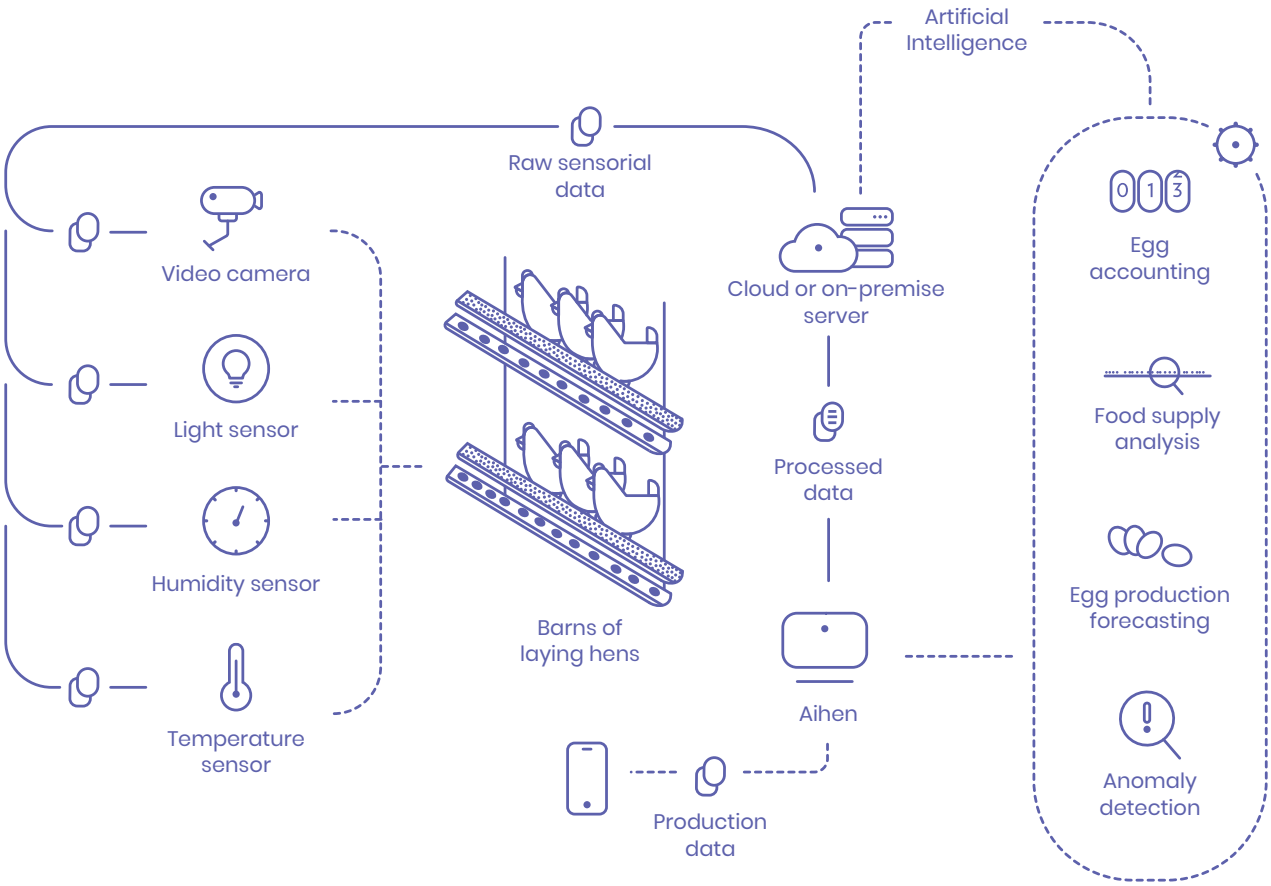


Forecasting solution

05

Individual needs

06



What's Aihen

Aihen is a platform for poultry flock management, that increases egg production productivity and reduce production costs. This system provides a centralized solution for solving several poultry-related problems, such as structured and regular data gathering, egg accounting and classification, real-time production anomaly detection and hen wellbeing monitoring by incorporating modern technology tailored into a user-friendly solution, uniquely made for the poultry industry.

Aihen requires little upfront investment, allows fast implementation and provides maximum operational efficiency liberating egg producers from most laborious IT maintenance and operational tasks usually associated with running enterprise grade applications inhouse.

How does the System Work?

Aihen helps to collect data both manually and automatically from various sensors, based upon company's needs and wants.

The core purpose of Aihen is to help operate poultry business more efficiently, giving the right tools and insights to gain a deeper knowledge about production processes. You don't need to spend hours analysing data, Aihen will show you what's important, advising the right action straightaway.

Who is Aihen designed for?

Aihen covers a wide range of production activity, processes and flock data, thus making it useful tool throughout the entire poultry enterprise. Aihen is made for:

Accountants
To obtain production data to use in expense reports

Analysts
To obtain different charts and production data to interpret

Zootechnicians
To organize flock processes, such as feeding

Veterinarians
To organize different veterinary processes

Technical workers
To make routine data gathering more effective

Board of the directors
To gain information essential for financial planning, distribution and further business development

Benefits

There are many benefits to deploying and introducing IT systems into poultry flock management.

Since the system is designed to make easy and productive data gathering and interpretation, Aihen gives the right insights to be aware of threats and opportunities in your production, reducing the need for manual labour required to run a poultry enterprise.

Security
Security against unauthorized data access

Control over / underproduction
By evaluate the risks and deciding on precautions

Sign up and you are good to go
Since solution is cloud-based it is available instantaneously

High customization
Breed and breed standard customization

Full customization of the system guarantees that Aihen will adapt your existing business processes

Complete Management
Easy to use and intuitive (UX) software for data collection and visualization

What use cases are supported?

In addition to serving as a centralized data store for poultry data, visualization and forecasting tasks, if necessary, Aihen can easily be expanded into any use case that relies on flock data collected from several different sensors or cameras, for instance:

Automated egg counting by using best in market computer vision algorithms

Feed supply and quality analysis

Climate monitoring

Anomaly detection

Core functionality

Flock and production data input and management:

- Bird count
- Produced eggs
- Bird weighing
- Feed and feeding data
- Egg measurements
- Medicine and supplements
- Autopsies

Counter data input and management

Mobile app for remote data input

Flock data overview and management:

- Species
- Breed
- Age
- Hatching date
- Disposal date
- Flock role
- Laying %
- Dying %
- Current bird count
- Flock status

Flock data search through the means of general and detailed filters

Flock data visualization in various charts, including flock performance analysis, flock comparison etc.

Detailed production reports, detailing flock production data for a specific time period

User and user role management

Egg accounting module

Computer vision and machine vision technology for egg counting tasks:

- Total number of produced eggs
- Total number of eggs produced by hen house
- Egg classification by size
- Egg classification by colour
- Total number of broken eggs
- Total number of dirty eggs
- Egg redirection on conveyor based on predefined classification

Anomaly detection module

Artificial intelligence solutions for real time anomaly detection ensuring hen wellbeing:

- Deviations in hen house environment (temperature, gases, etc)
- Feed supply and quality analysis classification

Forecasting module

Artificial intelligence solution for forecasting tasks:

- Egg production forecasting and visualization based on pre-existing data

Additional customizations

Customized notifications about potential problems and anomalies within hen houses

Bird breed standard integration to provide a reference point for production data and improve forecasting capabilities

After-deployment support

Basic support

Problem resolution and bug fixes of the core product, new product versions (without computer vision model updates) while support subscription is active

Advanced support

Basic support + computer vision model updates at least once per 6 months, device monitoring and incident coordination service (monitoring centre), computer vision recognizer quality assurance

Unique capabilities

Structured data entry
We tell you what data you need.

In a world full of data egg producers sometimes are confused what data is actually needed to gain an in-depth understanding of production processes. Hence, we have done the research and came up with all the crucial information that needs to be collected in order to gain a complete overview and increase productivity.

QR code
Fast, clear and accurate data collection.

QR code, generated in Aihen, can be stuck onto counters and other poultry-related sensors. Thus, by scanning the QR code in Aihen mobile app, data can be instantly inserted into the system, reducing the risk of human error and improving the data gathering process. Aihen mobile app makes data gathering more effective.

Aihen for egg counting tasks
Adaptable AI engine that can count eggs with at least 99,96% accuracy.

Computer vision technology enables modern poultry farmers to know precisely how productive their poultry flocks are by counting unsorted eggs with at least 99,96% precision, thus providing more precise data with less manual labour. Eggs can also be classified by colour, size and quality, whether the egg is broken, dirty or not.

Aihen for feed supply and quality analysis
Detection of deviations in hen feeding processes.

Feed availability and quality are two of the most important factors, when it comes to egg production, but due to technical difficulties feed distribution may be delayed or insufficient.

By incorporating computer vision technology, Aihen can identify feed supply problems and send corresponding notifications, thus educing the need for manual feed supply inspections. Automation of this tasks not only promises a better livelihood for the birds, but also significantly improves the enterprise's competitiveness within the market by lowering manual labour costs.

Aihen for climate monitoring
So that you can sleep tight and be certain that hens are in good care.

By analysing data from various sensors, such as temperature, humidity, light and air quality, Aihen can quickly identify that a hen house's environment has become inhospitable and inform its users that action should be taken, to prevent risks, such as decreased egg production or increased bird loss.

Furthermore, the availability of climate data enhances Aihen's anomaly detection and forecasting capabilities, thus providing even more trustworthy results.

Aihen for anomaly detection
Anomaly detection in hen related processes, based on predefined events

When it comes to illness and environmental problems, timely detection is vital to minimize potential losses, but for enterprises with a large number of bird flocks keeping track of the bird's overall wellbeing and interpreting production data can be a gruelling task.

That's why Aihen provides an anomaly detection module, which notifies users if a flock is starting to exhibit signs of distress and should be closely monitored.

About dots.

Today, dots. is a technology company with a 20-year experience, a proud Microsoft Gold Partner and Partner of the Year in Latvia in 2017 and 2018. We strive to take a different approach by using the latest advancements in Cloud and Machine Learning to solve challenges related to efficiency, mobility and security.

Back in 1997, we started out under the roof of SQUALIO, growing into one of the most significant partners of Microsoft in the Baltic region. As time went by, on 1st of June 2015, spin-off of the company was announced, paving path to a separate business, operating today under the name of 'dots.'.

dots. provides easy to use software solutions by leveraging capabilities of complex technologies. Company always strives to ensure high-quality services in all aspects of processes and operations through employing high level educated and certified IT professionals and provides SLA depending on customers' needs and requirements.

Why choose us?

Solving, not coding

You describe the challenge. We suggest and build the solution.

Practical innovation

Artificial Intelligence, Cloud, Big Data, Cyber Security, you name it.

We cherry pick and validate technologies so that solutions for your challenges are the most efficient as possible.

Team and practice

We are the team of experienced professionals driven by the urge to push the limits of what is possible with software and cloud.

What are we passionate about?

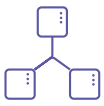
Transportation-related Solutions

Cloud Solutions

Machine Learning

Industry-based Solutions

IT Security Solutions



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