



More than just Heat Detection

A single reliable
system for the
optimal performance
of individual animals,
no matter the size of
your farm



Nedap Heat
Detection with
Health Monitoring

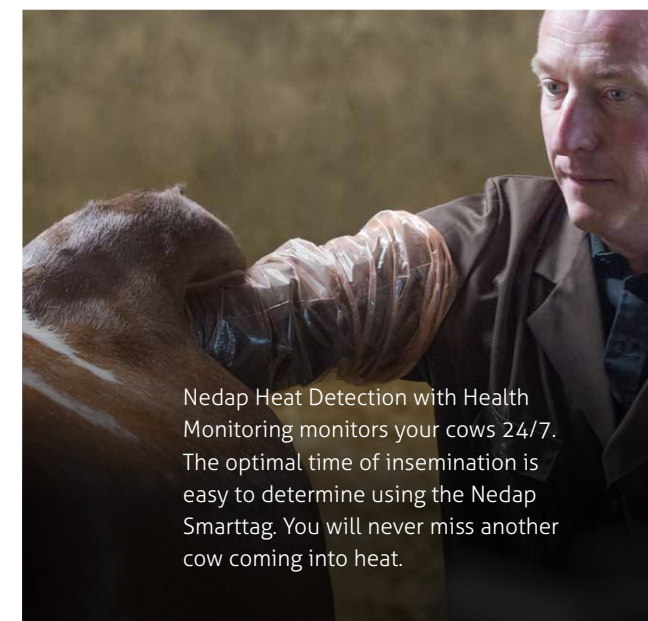


Nedap

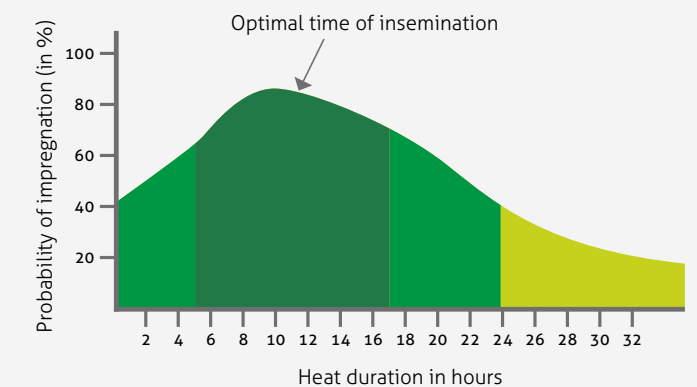
1-to-1 attention, no matter how many animals you have.

Attention to individual level is the key to optimal performance from your animals
But what do you do if you have 100, 500 or 1000 cows? Or maybe even 5000 cows? That's when you need Nedap's Heat Detection with Health Monitoring. This gives your animals optimal, 1-to-1 attention no matter how many animals you have or how big you expect to grow your farm.

With Nedap Heat Detection with Health Monitoring you can track individual animals and take preventive action if necessary. Always knowing the current state of health of your animals and accurate heat detection will save you time and money, and you can once again work 1-to-1 on the performance of your animals every day.



Nedap Heat Detection with Health Monitoring monitors your cows 24/7. The optimal time of insemination is easy to determine using the Nedap Smarttag. You will never miss another cow coming into heat.



Roelofs et al. 2005 (Theriogenology)



Why choose Nedap Heat Detection with Health Monitoring?

- Nedap Smarttag Neck and Leg provides the most accurate heat detection with health monitoring in the world, 24/7.
- Advanced technology: can be viewed anytime, anywhere, robust with a long service life
- Fast payback period thanks to more control of animal health and (re)production
- Nedap Smarttag can also be used on beef cattle

In short, indispensable to anyone wanting to achieve more with their dairy or beef cattle.

Kristine and Søren Niss, Suldrup, Denmark.
320 Jersey dairy cows

Kristine and Søren have had experience of Nedap Heat Detection since August 2013. The dairy farmers value to the early detection of cows coming into heat.

"From experience, we now know when the animals have to be inseminated, because we know exactly when they started coming into heat. This means we can now determine the optimal time of insemination with the best chance of success", said Kristine.

For Søren and Kristine, Nedap Heat Detection is an important management tool. "Because Jersey cows have a low persistence, a quick pregnancy is required after calving. Otherwise, the production falls so low that we have to cull the cows early", explained Kristine. This is why the cattle farmers stick to a strict insemination program. The first insemination takes place between 40 and 50 days after calving. A Smarttag Leg is attached to the cows shortly after calving to keep a close eye on the cycle.

"We can now determine the optimal time of insemination with the best chance of success"





Nedap Heat Detection with Health Monitoring: See more than an expert eye

On average, Nedap Health Monitoring warns of cows needing attention two days earlier than can be detected by the most expert eye. Thanks to this early warning, you can intervene at an early stage. This saves time and energy and reduces loss of milk and the use of medicines. Nedap Health Monitoring gives you continuous insight into the wellbeing of both individual animals and the entire herd.

We provide the best solution for every farm, irrespective of size!

In addition to heat detection, Nedap Smarttags bring you health monitoring in the form of Standing and Lying times and Eating Monitoring depending on the Smarttag type (Leg or Neck).



“One sick cow takes up just as much time as 40 healthy cows.”

Joep Driessen, CowSignals Training Center, part of the Vetvice Group.

Averages

- 12–14 hours resting/lying time
- 11 lying periods
- 2500–3000 Number of steps per day
- 4–6 hours eating
- 9–14 meals per day

Grant, R. 2003 (Western DairyManagement Conference)

Nedap Smarttag Leg with Standing and Lying Monitoring

The Smarttag Leg measures the cow's behavior, such as:

- Number of hours lying/resting
- Number of hours standing
- The total number of steps that a cow takes per day.

If differences are signaled in relation to the previous period, you know that there could be something wrong with the animal.



Nedap Smarttag Neck with Eating Monitoring

This lets you measure the total time per day that an animal spends eating. The Smarttag Neck also issues an alert when a cow has not eaten for a specific period of time. Cows with acute problems like mastitis and ketosis or acute udder infections stop eating. “Not eaten” alerts or deviations in feeding behavior are early warnings of possible health problems.

For beef cattle farming too

Accurate heat detection is important in beef cattle farming too. Nedap Smarttag Neck is particularly suitable for detecting heat in beef cattle. A shorter calving interval and more control over the calving pattern are directly proportional to higher returns.

The use of Nedap Heat Detection facilitates AI. Genetic advances occur more quickly via the selection of the best available bulls. Combination

with Eating Monitoring makes the Nedap Smarttag Neck particularly suitable for beef cattle farming. The Smarttag Neck continuously records how long your animals are eating feed.

If there are anomalies, that is a clear sign of possible problems with the animal's wellbeing. Addressing changes in the cow's behavior at an early stage saves time, energy and treatment costs.

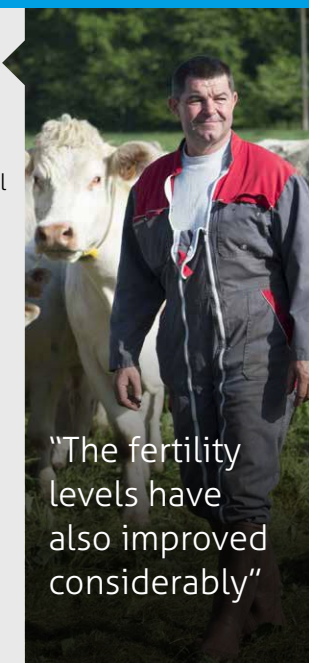
Eric Bonnot, Paray le Monial - Bourgogne, France.
85 dams and 85 young cattle.

The French Charolais breeder Eric Bonnot has been using Nedap Heat Detection with Eating Monitoring for two years now. The cattle breeder has come to rely on the system more and more. It is now a structural and essential component of his business management. **“It saves me a great deal of time and I no longer miss a single cow coming into heat”**, said Bonnot.

The breeder uses the Smarttag Neck on his dams. Bonnot uses the system with an outdoor antenna so that it also works when cows are in the pasture. Now that he has had two years' experience, his cows' fertility levels have increased significantly, he said. “The system works well; it detects a lot more cows in heat than I do.”

Eating Monitoring

The system also issues alerts through Eating Monitoring. “The first year I didn't put too much faith in it”, confessed the beef cattle farmer. However, that changed when he ignored an alert. “I got a message that a cow had stopped eating, but I didn't think twice about it. Later on it turned out that she had been in the early stages of an airway infection. I didn't discover this until later when I had to cull the cow because the infection was too far advanced. So the system was right after all.”

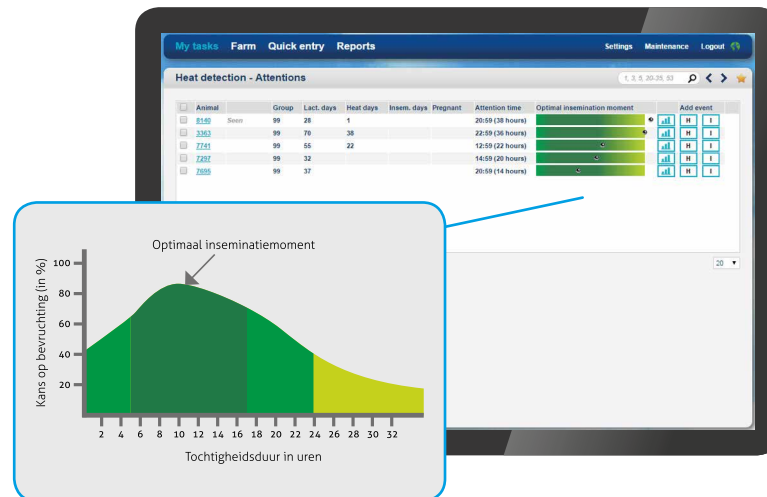


“The fertility levels have also improved considerably”



Nedap Interface

Doing the best for the fertility and health of your animals at any time and in the smartest way possible. That's what the Nedap interface allows you to do. This Nedap Heat Detection with Health Monitoring system quickly and simply gives you, and your employees, an overview of individual animals or your entire herd. Which animal needs more attention? Which animals need to be inseminated today? The alerts show differences in the behavior of your cows. You will see all of the alerts from the Nedap Smarttag Neck and Leg in a clear interface. The alerts are easy to receive on your smartphone, tablet or computer. Here you will see at a glance which animals need attention from you or your employees in the field. of Heat Detection with Health Monitoring.



HEAT DETECTION

Overview of heat alerts.



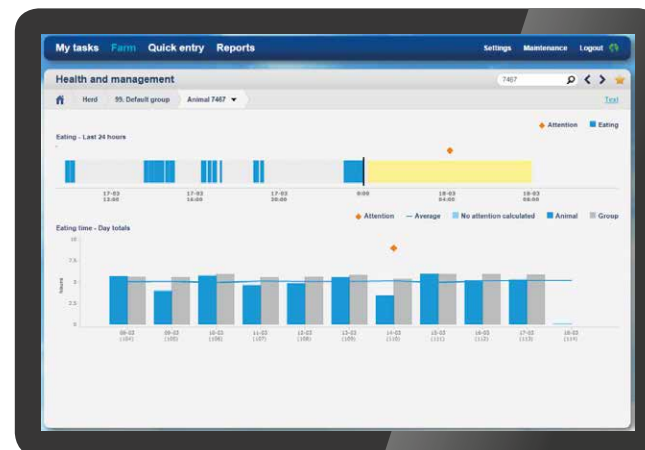
HEAT DETECTION

Cow has a regular cycle. She was inseminated last time she was in heat. Cow is not pregnant because now (3 weeks later) she is in heat once again.

EATING MONITORING



Cow has been lactating for 113 days and has not eaten for 8 hours. It could be a metabolic problem, such as mastitis. Or lameness.



HEAT DETECTION



ACTIVITY MEASUREMENT



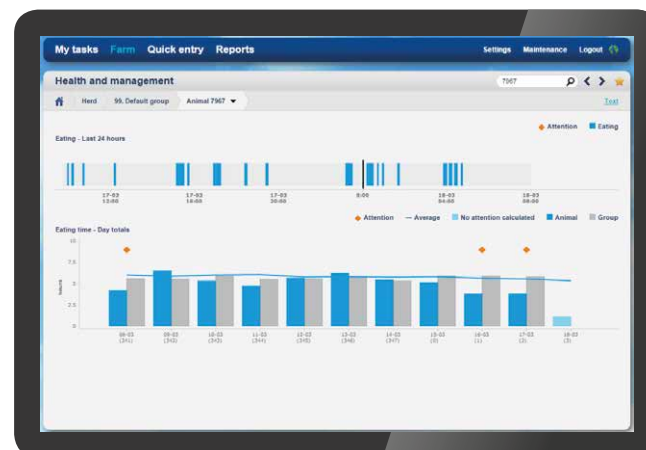
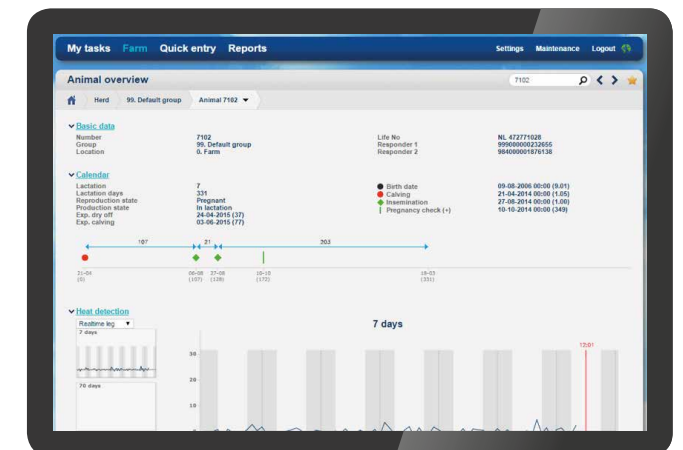
EATING MONITORING



STANDING AND LYING MONITORING



Cow has been lactating for 300 days. She became pregnant the second time she was inseminated. Cow is eating, walking and lying down enough. A healthy cow.



EATING MONITORING

The cow calved three days ago and has been eating less each day ever since. The cow probably has ketosis.

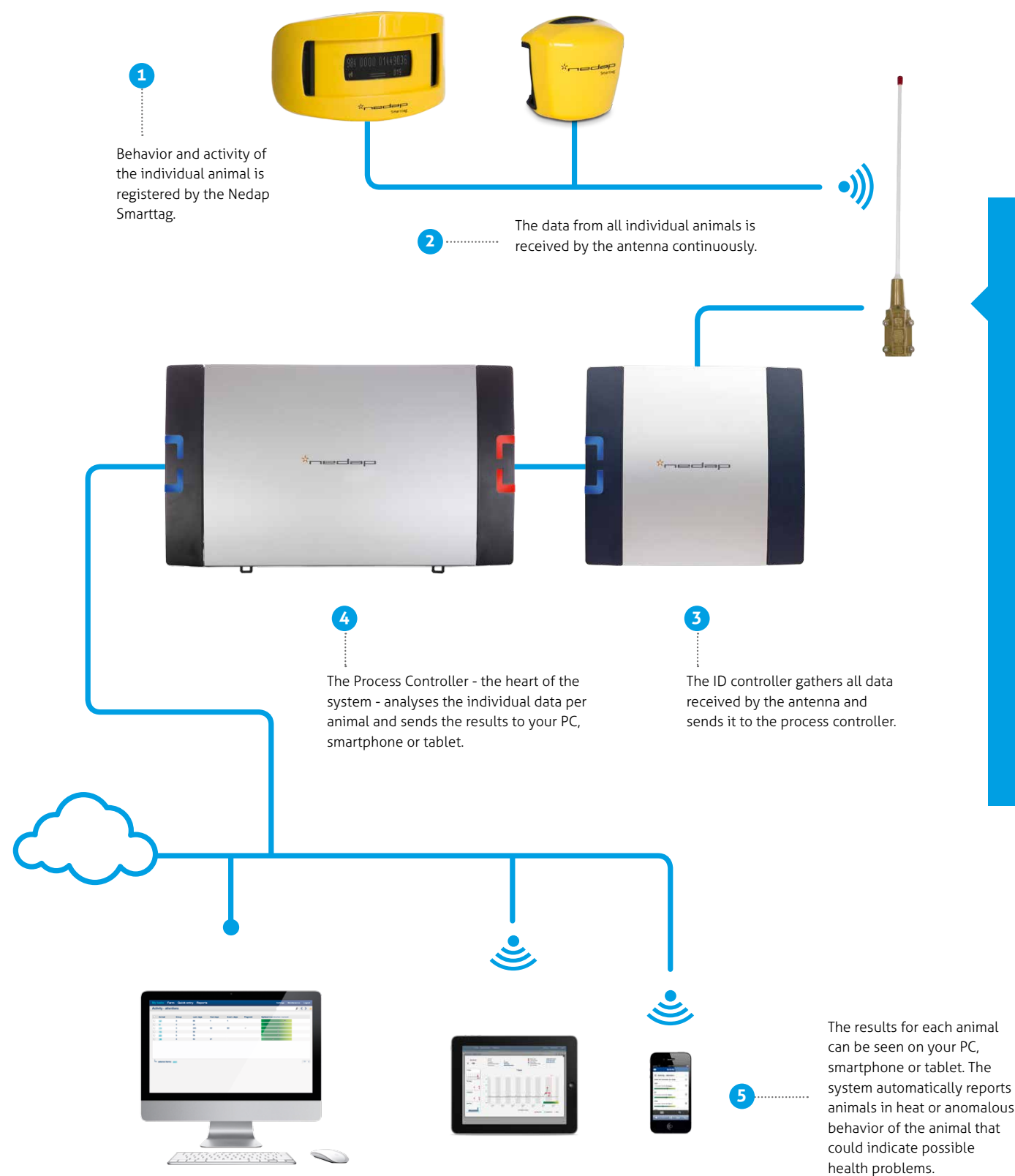


The interface is also suitable for mobile applications. Check heat and health alerts easily and clearly on your smartphone.



This is how the system works

Nedap Heat Detection with Health Monitoring: this is how the system works



1 The Nedap Smarttag registers the activity and behavior of the individual animal. Data for the last 24 hours is stored in the Smarttag.

2 All data is retrieved once the animals come within range of the antenna.

3 4 The ID Controller sends the collected data to the heart of the system, the Process Controller, which analyses the data continuously.

5 The results of the analysis can be read on your smartphone, tablet or PC. The system immediately sends an alert on heat detection and for anomalies in the eating pattern, and deviations in the standing and lying behavior or activity.

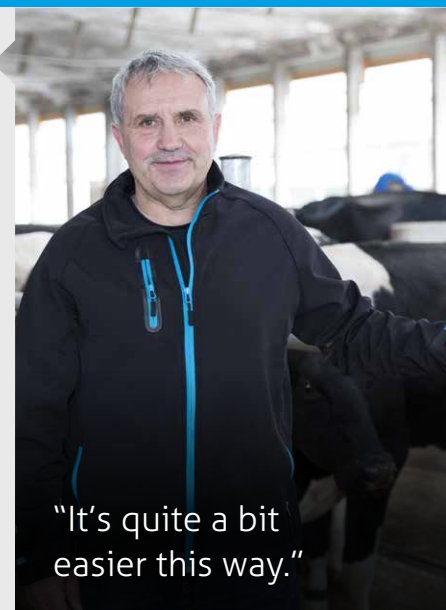
As an option, you can automatically create an online backup of all data and settings on your heat detection system. You must have an Internet connection for this.

*'Am Schmooksberg' Ingolf Bohn. Plaaz - Northern Germany
300 dairy cows and 1800 hectares of arable farmland*

The former North German state-owned company 'Am Schmooksberg' was extensively renovated and expanded in 2013–2014. The introduction of Nedap Heat Detection with animal identification was the final element of the modernization project. Executive Manager Ingolf Bohn has been as happy as Larry ever since. "It works on all sides and much easier", he laughs. "Every aspect of everything works just a little more easily", he laughs.

Since he started using Nedap Heat Detection with Smarttag Leg the average calving interval has become 5 days shorter. And the use of hormones has decreased sharply too he says. In addition, Bohn is full of praise for Nedap Heat Detection's ease of use. **"You quickly learn how the system works."**

Bohn and his employees also know how to use the health monitoring function properly. "Cows with hoof problems can be identified quickly and easily", says the executive manager from experience. "That makes a difference to the milk production. After all, a cow that feels well and is in no pain produces more milk.





Heat Detection and Health Monitoring with Nedap Smarttag Neck and Leg

- 1 Accurate Heat Detection 24/7
- 2 90% heat detection rate
- 3 Indoor and outdoor antennas
- 4 Monitors the health of individual animals and the entire herd 24/7
- 5 All the information about your animals at your fingertips anytime.
- 6 Available as Smarttag Neck and Leg
- 7 Smarttag for Heat Detection with Health Monitoring for beef cattle too
- 8 Optional ISO identification
- 9 More control over an animal's health and reproduction status; short payback period

What does Nedap Heat Detection with Health Monitoring return?

Assumptions for calculation example

- Dairy farm with 150 cows
- Average return on a shorter calving interval; €2.00 per cow per day
- Labor costs per hour: €15.00

Savings

- Reduction in calving interval from 400 to 385 days
- Return: $(400-385) \times €2.00 \times 150 = €4,500.00$ per year on average
- Time saving on visual heat detection 3 x 10 minutes per day
- Return: $€15.00 \times 0.5 \text{ hours} \times 365 \text{ days} = €2,737.50$
- **Average return from the use of Nedap Heat Detection:**
 $(€4500 + €2737.50) = €7237.50$ per year

Return

$15 \times €2.00 \times 150$	€ 4,500.00
$€15.00 \times 0.5 \times 365$	€ 2,737.50
	+
Average per year	€ 7,237.50

This calculation does not include:
- Shorter calving interval for heifers
- Lower veterinarian's costs
- Improved sustainability of cows (more lactations per cow)

Growth requires Livestock Performance!

Due to our increasing population and prosperity, dairy and meat producers have seen a rise in the demand for their products. At the same time, the quality, environmental and food safety requirements continue to become more stringent. How can you still grow? By not only thinking about numbers of animals, but by consciously and structurally optimizing the performance and wellbeing of individual animals.

For more than 35 years, Nedap Livestock Management has been developing and producing the technological applications that help cattle farmers bring the performances of individual animals to the highest possible level on a 1-to-1 basis, no matter how big your company is or wants to be.

We do that with barn optimization based on electronic individual animal identification which we use to provide you with information that shows the fertility and health of your animals at any time. This allows you to take immediate action on the performance of your animals. This saves you valuable time, provides peace of mind and presents a clear overview. And it also gives you a new way to grow sustainably.

Today, cattle farmers are facing a new challenge: growth in animals but, above all, growth in performance! Nedap Livestock Management is there for you with the technology, the knowledge and the experience to meet the challenge together.



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