

# Detection of pathogens in “Egg-farms” via air samples

## Aim of the InSPIRe demo project:

- Demonstration of innovative air sampling technology for detection of pathogens amongst egg-producing hens.
- Implementation of handheld air samplers for the egg producers to be directly engaged in the testing of their egg producing stock. Verifying analysis of the test results is performed at a standard laboratory, where the air samples are analysed for TRT, IBV and E. coli, respectively.

## Project perspective & gains for industry:

The innovative technology provides early and fast detection of pathogens, enabling a faster response when desired to prevent an infection spreading in the stock. Reduced production losses and improved economy are earned. Further, food safety and product quality are claimed.



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**GOAL:**  
Demonstrate the detection of pathogens in hen farms from air samples. Furthermore, to engage the egg producers in the air sampling, and get their feedback on the new technology.



**WHY:**  
The method offers the possibility for monitoring the environment in the entire farm instead of on individual animals only. Furthermore, it provides earlier and faster results.



**HOW:**  
Air samples are collected in hen farms in collaboration with the egg producers. The analysis is performed in a standard laboratory. The results are verified by blood samples.



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Related to inSPIRe projekt:  
II-2: Process Analytical Technologies, PAT.



**OUTCOME:**  
DELTA has successfully demonstrated the detection of pathogens in hen farms via innovative air sampling techniques. The Partners have successfully engaged the individual egg producers (owners), who would like to test the air sampling technology as an alternative to traditional professional veterinary or remote lab control.

Furthermore, we have identified some new perspectives for exploitation of the technology, still focusing egg production, namely more targeted vaccination routines of the stock and verification of stable cleaning quality.

Further potential of the technology seems obvious for similar poultry stocks and not least pig farming.

Project partners are: Hedegaard Foods, Hedegaard Egg Producers Corp., Sanovo Biotech.



**BUDGET:** 630000 DKK (330.000 DKK in kind)  
**PROJECT PERIOD:** Sep. 2014 - Feb. 2015

**FUNDING BODY:** InSPIRe

