

Smart Poultry Farm Monitoring & Control System

Real-time environmental monitoring, ventilation control & fan diagnostics across a 120,000 m² poultry and feed production facility

120,000 m²
SITE AREA

7
POULTRY HOUSES

1
FEED FACTORY

1
GREENHOUSE (PLANNED)

PROJECT OVERVIEW

The main aim of this project was to design and deploy a smart, real-time monitoring and control system for a 120,000 m² poultry farm with seven poultry houses and a feed production factory. As Owner's Engineering Consultant, Mirage Consulting Group engineered a centralized platform tracking temperature, humidity, and fan status across every house, supported by the underlying ventilation, feeding, and drinking system design.

KEY FACTS

 **7 Poultry Houses**
Full engineering assessment

 **Feed Factory**
On-site production integration

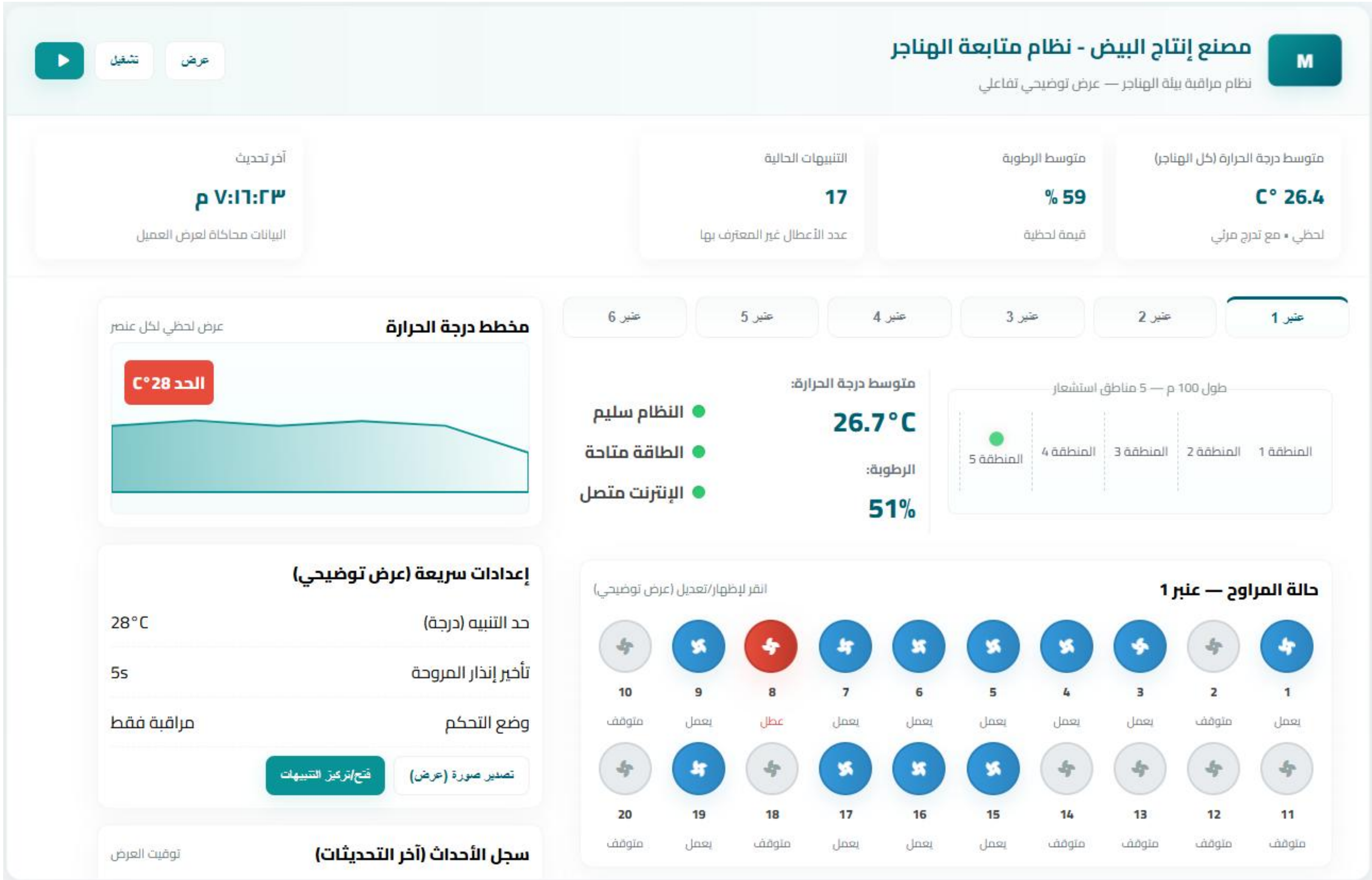
 **Mobile Monitoring**
Tablet-based farm-wide control

 **Greenhouse**
Feasibility & conceptual design

DESIGN PHILOSOPHY

Engineering solutions developed to improve animal welfare, enhance operational reliability, and increase production efficiency maintaining optimal environmental conditions through continuous monitoring and automated control while minimizing energy consumption and supporting sustainable farm operation.

REAL-TIME MONITORING SYSTEM



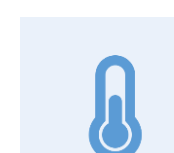
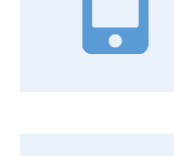
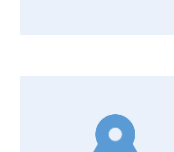
Live dashboard — real-time temperature, humidity & fan status across all poultry houses

Each house streams live sensor data to a centralized platform, giving operators and management full visibility from any tablet or workstation, with alerts the moment a reading drifts out of range.

SCOPE OF WORK

-  Design of a centralized real-time monitoring & control system for temperature, ventilation, feeding, and drinking
-  Tablet-based monitoring platform giving operators & management full farm-wide visibility
-  Continuous monitoring of ventilation fans and heating systems for year-round reliability
-  Engineering assessment and optimization of the poultry houses
-  Ventilation system enhancement for required air exchange rates and optimal indoor temperatures
-  Engineering feasibility study and conceptual planning for future greenhouse development

DELIVERABLES

-  **Real-time environmental monitoring platform (temperature, humidity & alerts)**
-  **Centralized ventilation fan status monitoring & control**
-  **Tablet-based farm-wide monitoring dashboard**
-  **Automated alert & notification system**
-  **Engineering design & system integration documentation**