

Automated comfort for free-range hens

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A new control system from Siemens is providing free-range hens with more comfort and also reducing their risk of infection. The system automatically controls the daily routine — e.g. feeding, lighting changes, and chicken release onto pastures — in transportable chicken coops. These coops are driven to new locations every week, which lowers the risk of infection for the animals. The "chicken mobiles" built by Stallbau Iris Weiland e.K. can house between 200 and 1,200 chickens. The energy needed to operate the trailers' equipment is generated by roof-mounted solar panels fitted with rechargeable gel batteries. Credit: Stallbau Iris Weiland e.K.

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The mobile henhouses solve a common problem of free-range poultry: Chickens like to peck around in groups, but if they stay too long in one place, [germs](#) can form in the waste they leave in the soil, which is why they need to be frequently relocated to new pastures. Doing this ensures the [chickens](#) remain healthy even without [antibiotics](#), and such healthy hens lay more than 90 [eggs](#) on average over a hundred days. The mobile henhouses are hooked up to a tractor every week and moved to a new site, along with all the chickens. After a few weeks, the former location has completely regenerated and can be used again.

Stallbau Iris Weiland e.K. wanted a henhouse control system that would be easy to program and which would also automatically adjust daily operations in line with different seasons and locations. Siemens Industry Automation met these requirements with its Logo! control system. Designed for simple automation tasks, Logo! is equipped with a variety of integrated features that are logically linked via a graphic user interface. Logo! is used in heating and building systems, motor control units, [solar power](#) facilities, and on ships, as well as other applications. The system's "astronomical clock" function, which stores data on daylight and nighttime periods for every day of the year and for every location, is particularly useful for the mobile henhouses.

In all henhouse models, Logo! helps to open the flaps in the morning to

let the chickens out, and close them again at night. Logo! also turns the LED lights on and off, and opens and closes the nests. The larger henhouse models are equipped with conveyor belts that automatically transport feed and manure. The control system is responsible for the automated charging of the gel batteries with energy from the [solar panels](#) . It also simplifies software updates. Previously, it was necessary to send in specialists. Now, new programs can be sent by e-mail. All farmers have to do is copy the program onto an SD memory card that they then insert into the control device. The 180 automated henhouses that have hit the road to date have performed so well that a new version for breeding chickens was recently presented.

Provided by Siemens

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