



## Revolutionary BioDevice System for Vaccinating One Hundred Thousand Chickens per Hour Eliminating the Need for Antibiotics



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**"We will revolutionize the Poultry Industry, One Chick at a Time!"**  
- Ramin Karimpour

Interview conducted by:  
Lynn Fosse, Senior Editor  
CEOCFO Magazine

**CEOCFO: Mr. Karimpour, what is the concept behind Applied LifeSciences & Systems?**

**Mr. Karimpour:** Today the poultry industry is going through a major transition towards production methods including antibiotic free and organic. That will, in addition to other long term economic effects, also potentially shift animal disease dynamics and is already creating a demand for better vaccines and means of effective vaccine delivery for preventative medicine. Regulatory agencies have become very active trying to get livestock producers to remove antibiotics from the production cycle. In particular with regard to poultry, which includes ducks, turkeys and chickens, as well as 'layers' or table eggs, that we eat for breakfast. We consume almost seventy billion chickens a year. On a more specific level, diseases with either high economic impact, such as coccidiosis because of the impact on production efficiency, or diseases with rapidly changing dynamics –variant viruses such as Reo, IBV, etc. with no cross-protection, or pathogens of public health significance such as salmonella and campylobacter that also carry high economic impact (risk of outbreak, publicity, etc.) all remain top concerns and priorities for poultry integrators. When you remove antibiotics from the production cycle, the chicks get sick and diseases are introduced, such as Coccidiosis, salmonella, Newcastle and others. This can increase mortality by almost three hundred percent. This leaves the producers with a loss of about nine to ten billion dollars a year with regards to loss of production and loss of efficiency. That is why when you go to the supermarket and buy antibiotic-free chicken you pay more, about four dollars per pound for an antibiotic-free breast of chicken.

**CEOCFO: Where does ALS-S come into play?**

**Mr. Karimpour:** We will revolutionize the Poultry Industry, One Chick at a Time! On day-one of the chick's life, to provide a better vaccination process to help eliminate antibiotics during the growth period. Unfortunately, even though animal health companies have already created many vaccines against all the big diseases such as Coccidiosis, there are no effective means of mass delivery to the billions of chickens every year. The current method is mass sprayers of vaccines, which do not get to all the chicks, and those that are vaccinated actually get the rest that are not vaccinated sick much faster. As a result, the best way to protect all chicks is to ensure that you can deliver vaccines to each chick. ALS-S has the technology to individually vaccinate all chicks, at one hundred thousand per hour.

**CEOCFO: How do you do that?**

**Mr. Karimpour:** That is the "secret sauce."

**CEOCFO: Can you give us a little detail?**

**Mr. Karimpour:** We have a system that the chicks enter on the day they are born and we individualize them. Using robotics and vision technology, we inspect the chicks and can target vaccine delivery to the facial area where it will have the greatest uptake.