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## Closed-Loop Precision Animal Agriculture for Global Sustainability

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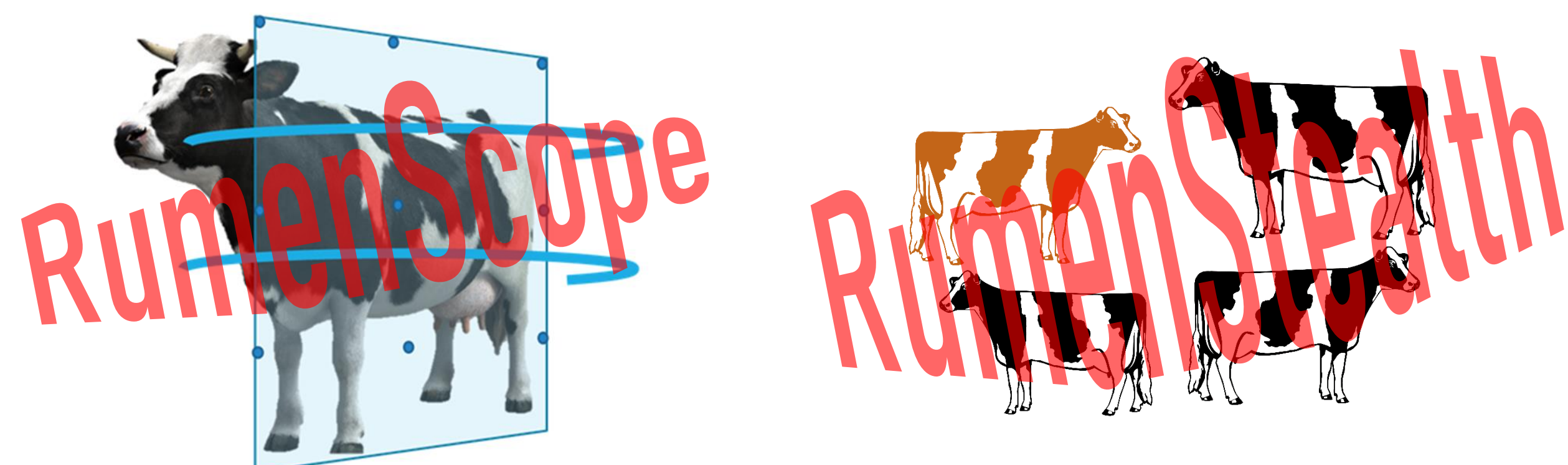
### Challenges:

- Need for better electromagnetic models of cow physiology
- Data Sensors & Data Security



### Solutions:

- Dataset of electro-magneto-spatio-dynamics of “cows for comms”
- Semi-supervised reinforcement learning of rogue software

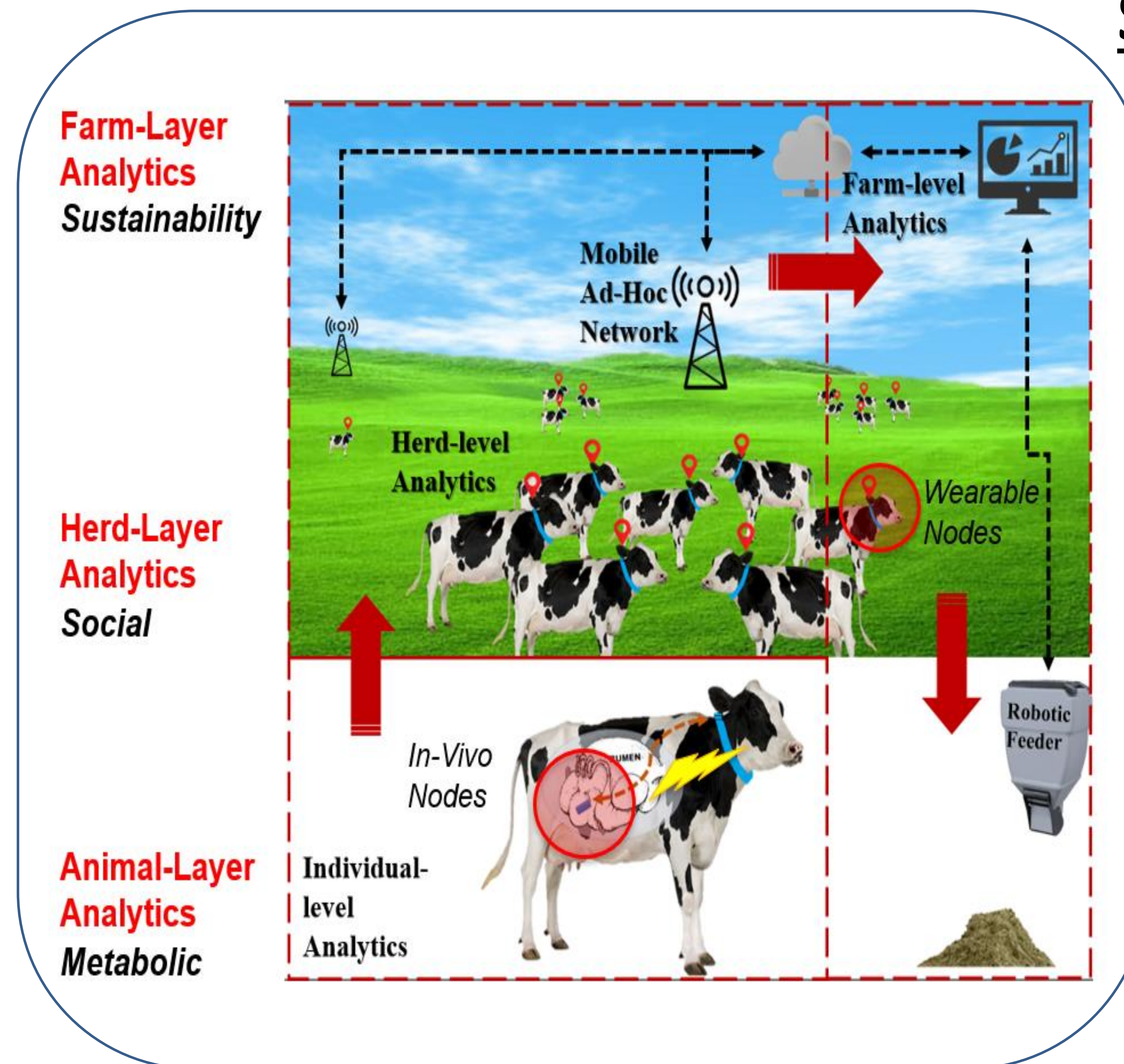


### Scientific Impact:

- Reference Architecture for animal agriculture
- Dataset and ongoing work on Body Sensor Networks for cows

### Broader Impacts:

- Food availability for a growing population
- Opportunity for reductions in methane emissions
- New class on Cyber-Animal Systems for Engineering Technology and Animal Science



Three-layer network of analytics and physical layers that provide data from in vivo to cloud.