

↓ 82% Cost Reduction

↑ 30% Faster Convergence

↑ 150ms Delay Tolerance

Hours



## CLOUD: Federated Learning

*Physics-Informed Neural ODEs*  
*Multi-Agent RL Training*

Federated  
Aggregation



ms



## EDGE: Real-Time (<10ms)

*BITW Hardware + ONNX*  
*Control Barrier Functions*

Safety  
Enforcement



ms-min



## MAS: Distributed Control

*Primary (ms) • Secondary (s)*  
*Tertiary (min) • GNN-ADMM*

Consensus  
Optimization