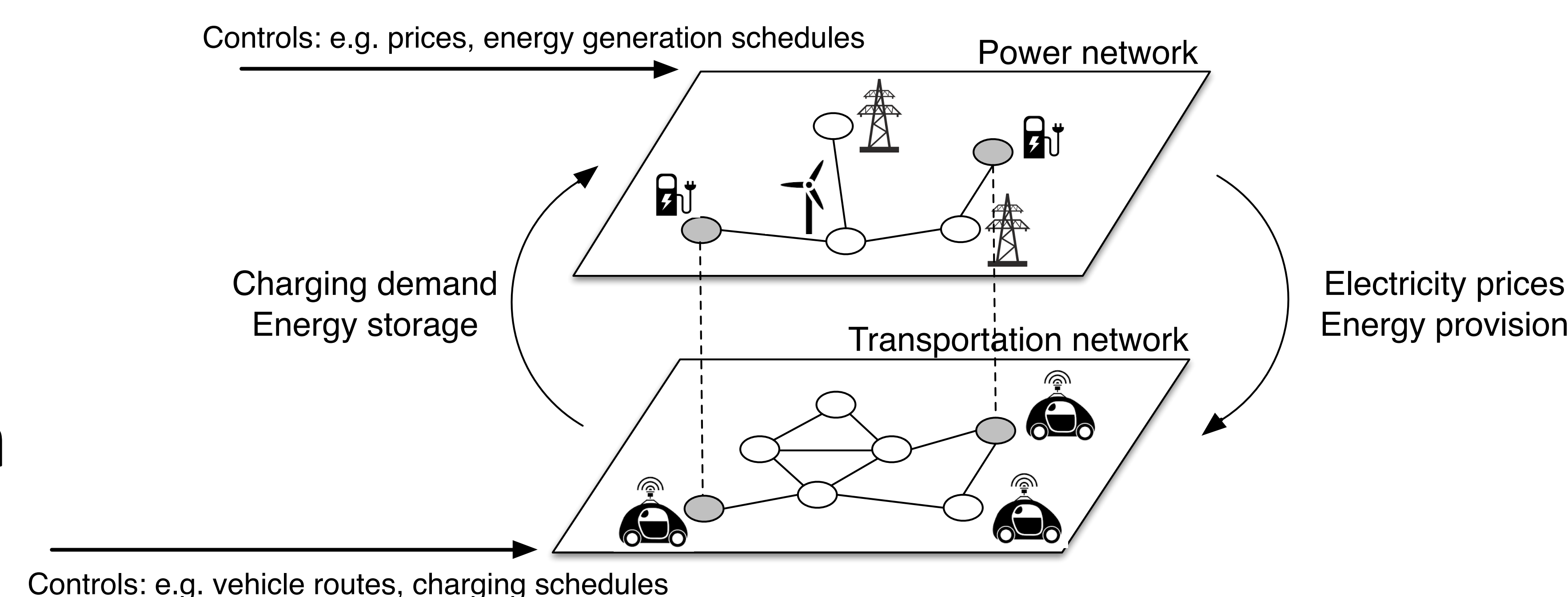## Models and System-Level Coordination Algorithms for Power-in-the-Loop Autonomous Mobility-on-Demand Systems (AMoD)
Award Number: 1837135 – Award Date: January 1, 2019
PI: Marco Pavone (Stanford); Co-PI: Mahnoosh Alizadeh (University of California, Santa Barbara)

Challenge:
- AMoD: self-driving, electric vehicles transporting passengers *on demand*
- AMoD will give rise to complex couplings between the power and transportation networks

Solution:
- Cast the coupled power and transportation networks in the formal framework of flow optimization
- Devise computational methods for the optimal coordination of power-in-the-loop AMoD systems
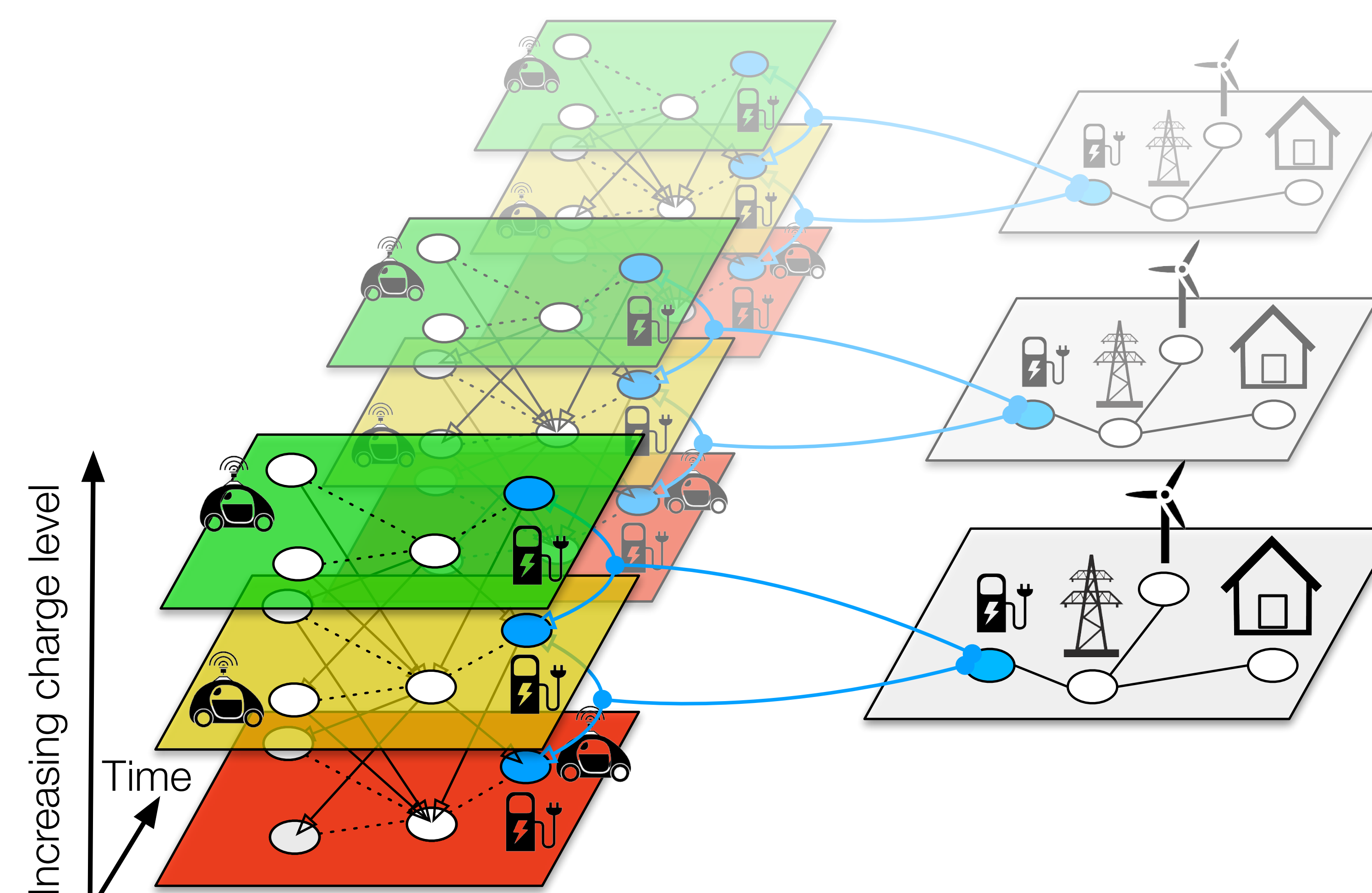

Scientific Impact:
- New models and algorithms capturing the couplings between AMoD systems and electric power network
- Case studies evaluating models and algorithms

Broader Impact:
- Results will provide much needed guidelines to transportation stakeholders and policy-makers alike regarding deployment of autonomous vehicles on a massive scale and their integration with energy grid

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