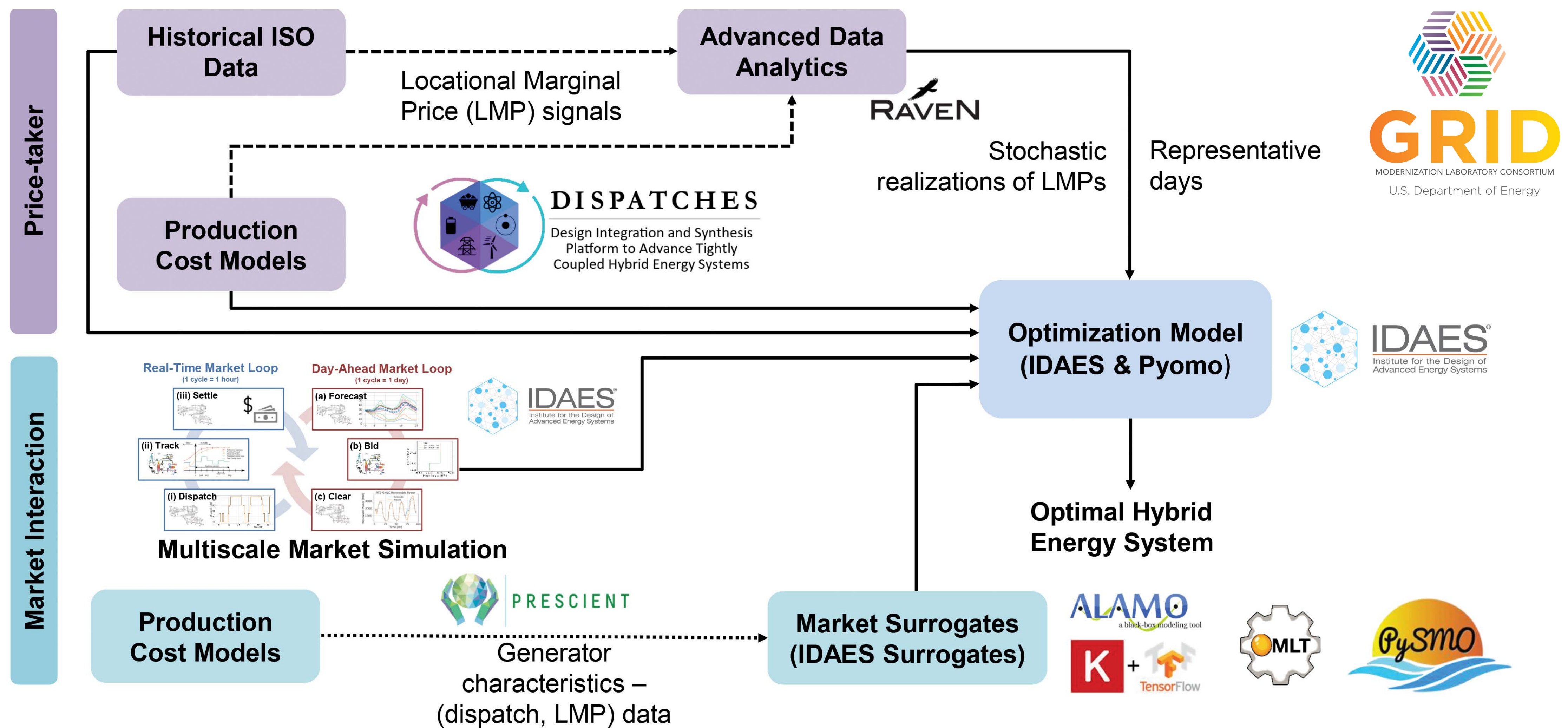


# DISPATCHES: Market-Informed Decision-Making Capabilities for Designing Novel Integrated Energy Systems

*New capabilities enable design of next-generation integrated energy systems while accounting for complex interactions between the generator and the electricity market.*



**DISPATCHES workflows for designing integrated energy systems.**

Traditional approaches for designing integrated energy systems ignore complex interactions between the generator and the electricity market, which may result in over- or under-design, -estimation of profitability, etc.

DISPATCHES workflows:

- Provide a path to incorporate varying levels of market interactions.
- Have been successfully applied to two industrial case studies:
  - Impact of hydrogen credit (\$45V) and the capacity market on the economics of installing a hydrogen-based peaker in the NYISO market: For a given value of hydrogen credit, DISPATCHES determined the target capacity payment policy that could make its deployment attractive.
  - Economics of blending green hydrogen with natural gas for use in a gas turbine in the CAISO market: DISPATCHES enabled assessment of techno-economic feasibility of reducing carbon emissions by blending.
- Have been successfully applied in internal case studies involving fossil, renewable and nuclear generators. These capabilities are essential particularly for flexible systems, co-production systems, and systems with energy storage.

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