



California ISO
Your Link to Power

Smart Grid Roadmap and Architecture

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| DATE | DEC 17 2010 |
| RECD. | DEC 20 2010 |

California Energy Commission IEPR Committee Workshop
Committee Workshop on Smart Grid Research Road
Mapping Projects

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Strategy

December 17, 2010

The smart grid roadmap was developed with California and ISO objectives in mind

- Increase grid reliability, visibility, and efficiency
- Enable diverse resource participation in ISO markets
- Provide enhanced physical and cyber security

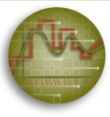
The ISO smart grid strategy centers around five technology themes



Advanced Forecasting



Synchrophasors



Advanced Applications



Cyber Security



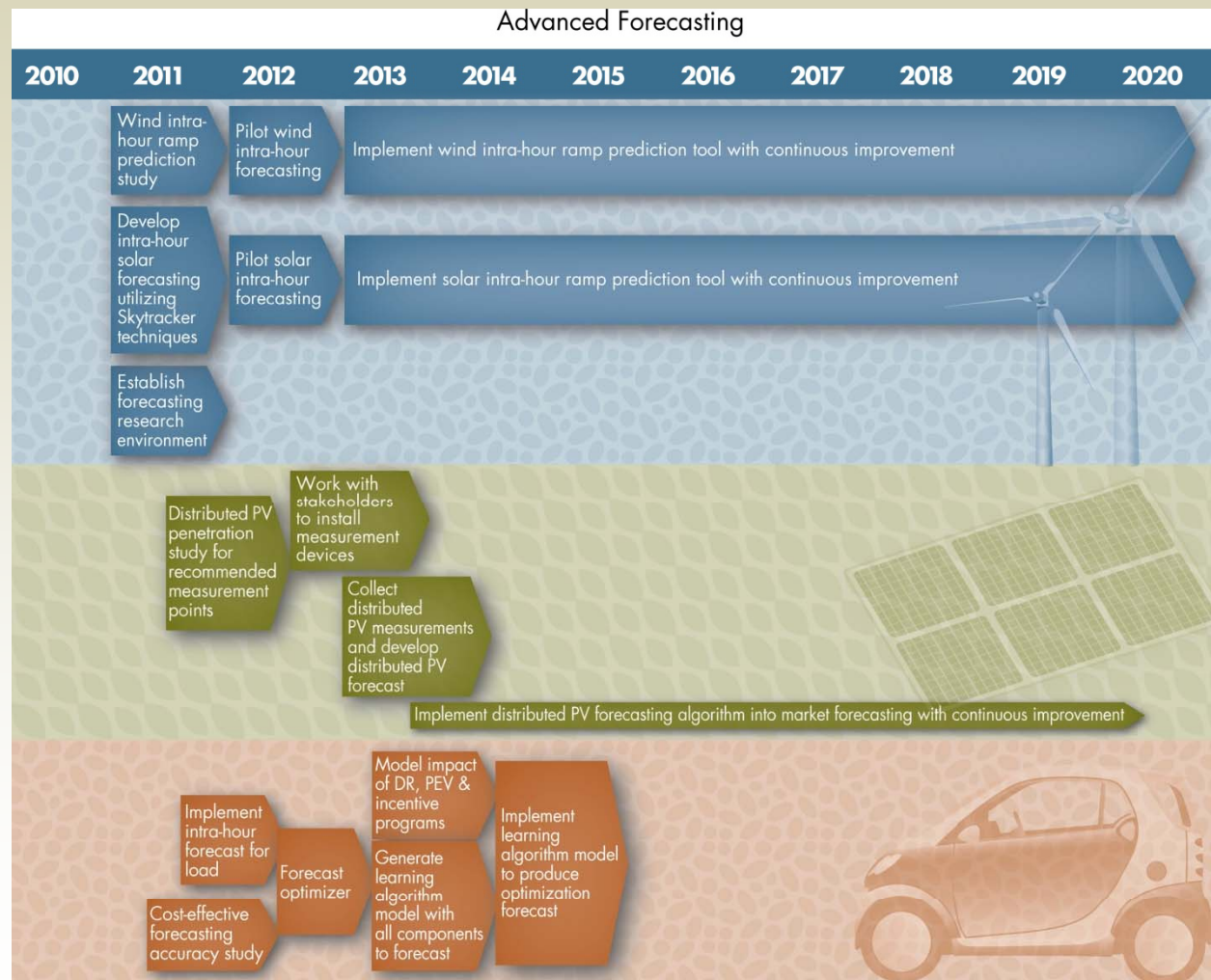
Enabling Demand Response, Storage, and Distributed Energy Resources

Advanced forecasting evolves renewable forecasting capabilities & increases distribution system visibility

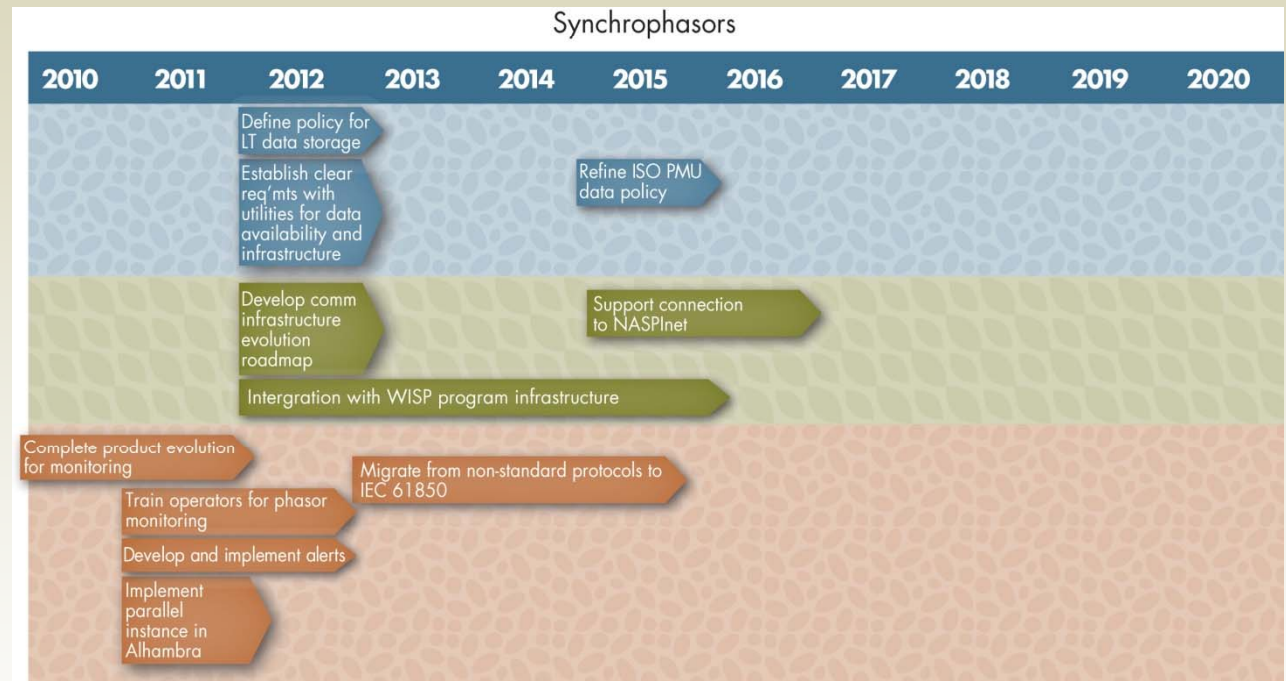


Advanced Forecasting Vision:

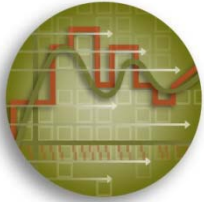
Industry leader in advanced forecasting accounting for variability introduced by renewable generation and incentive based programs, minimizing forecast error for optimal unit commitment and dispatch.



Fully implemented phasor measurement network for the ISO and inter-connected regional entities supporting grid visualization, situational awareness, phasor-based control actions and operator decision support.



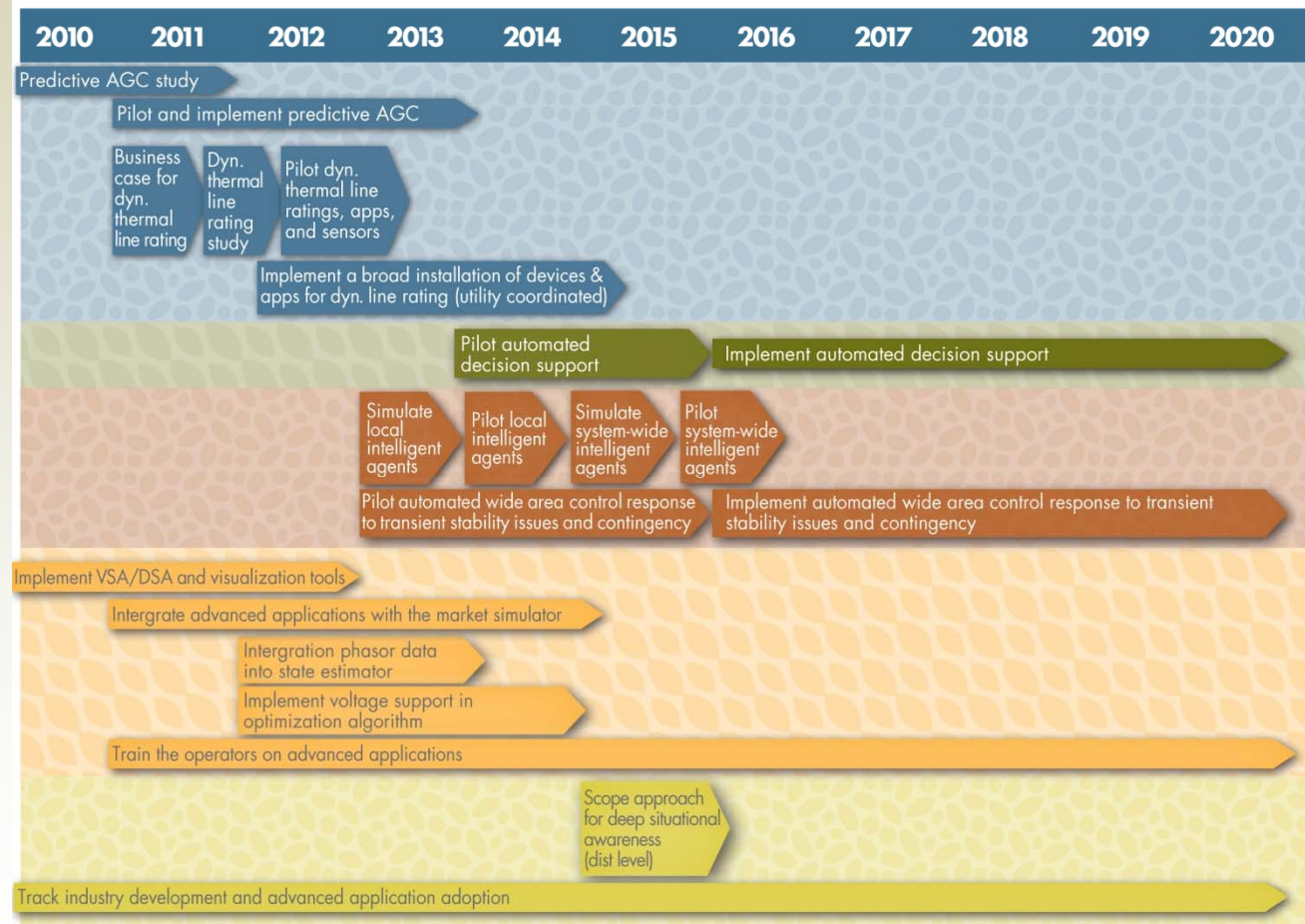
Advanced grid applications enable more grid visibility, efficiency, and reliability



Advanced Grid Applications Vision:

Industry leader in advanced grid monitoring, wide area control, and decision support applications providing grid transparency, efficiency, and reliability.

Advanced Grid Applications

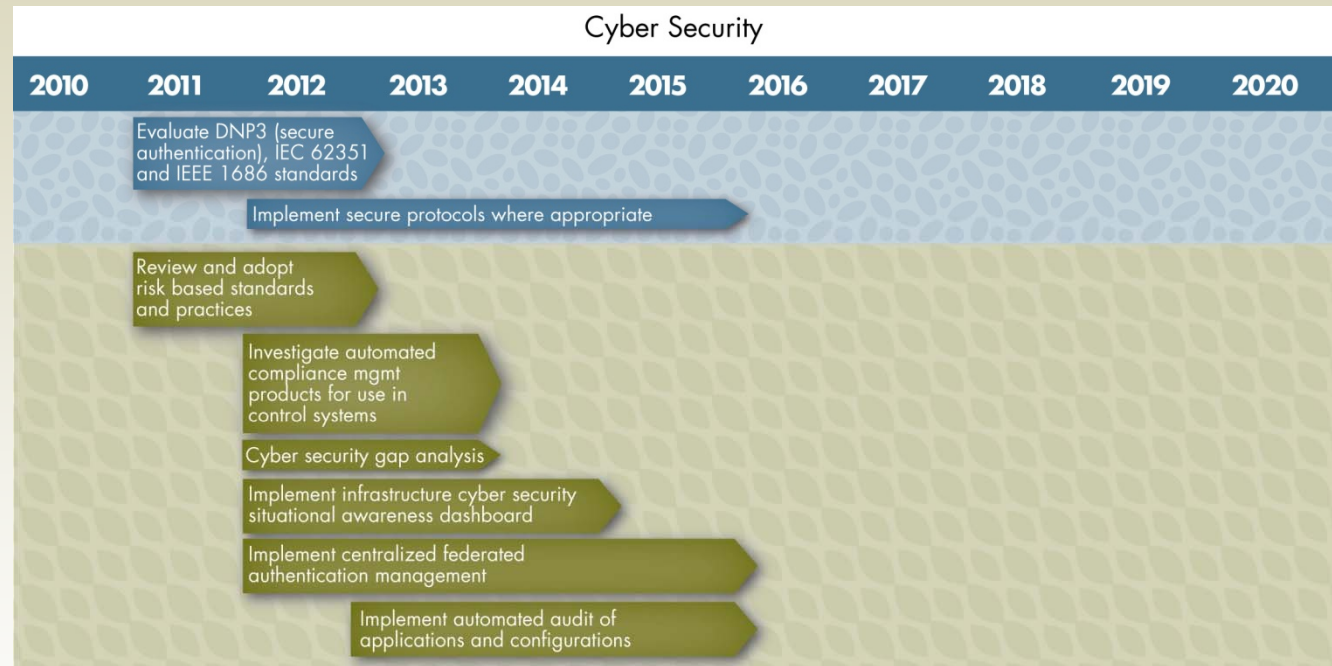


Cyber security focuses on identification, visualization, and resolution of threats and vulnerabilities

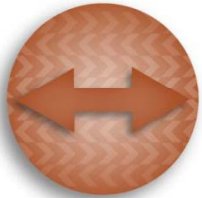


Cyber Security Vision:

Standards compliant cyber security policy and resulting infrastructure that automatically identifies, visualizes, and resolves threats and vulnerabilities.

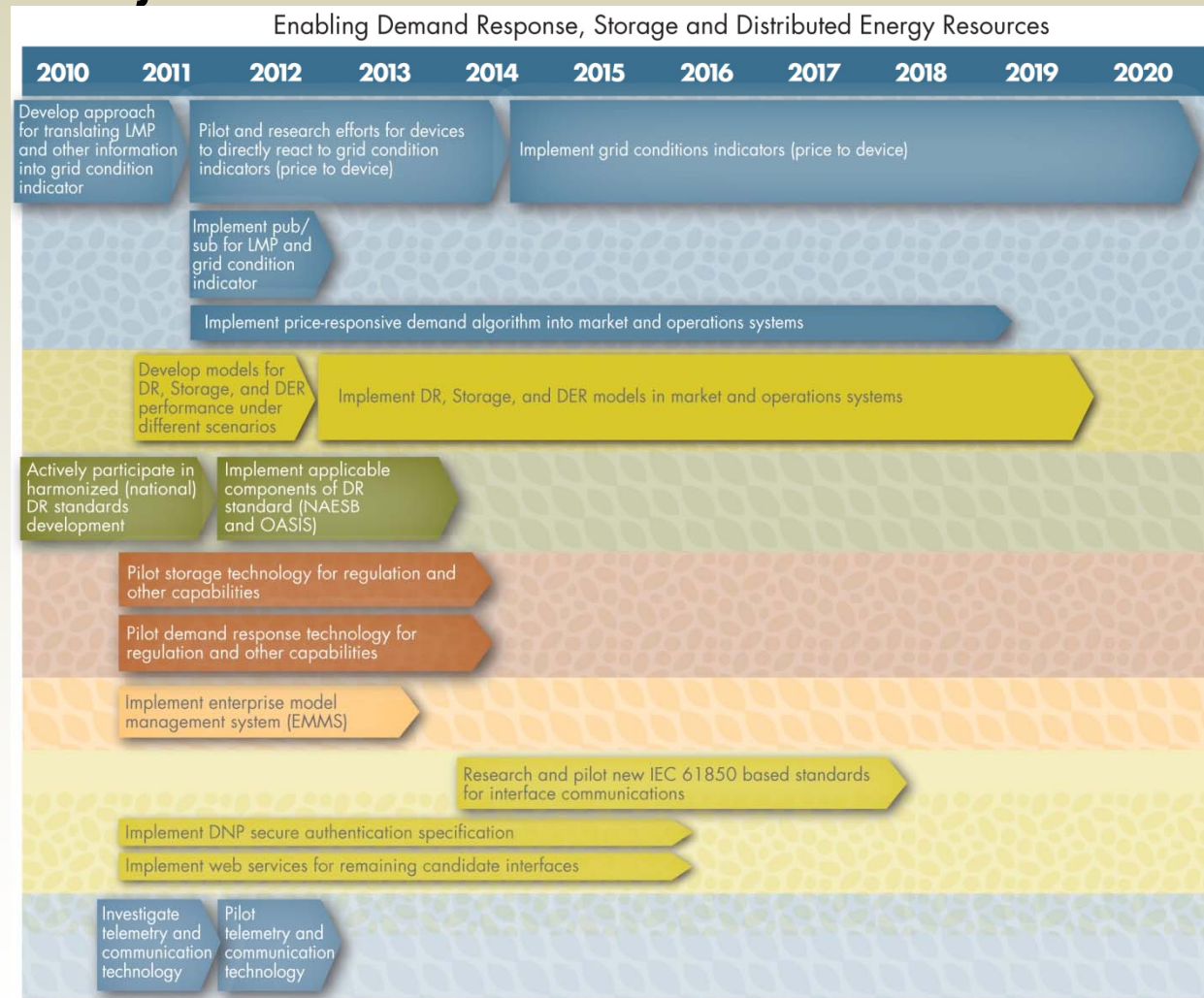


A standard, flexible infrastructure enables California to achieve its demand response, storage, and distributed energy resource objectives



Enabling Demand Response, Storage, and Distributed Energy Resources Vision:

Deployed infrastructure built on national business and interface standards that provide the flexibility to support demand response, advanced storage and distributed energy resource applications.



<http://www.caiso.com/green/greensmartgrid.html>

