

Beyond Initial Savings

Intersection of Demand Response, Customer Engagement, and Efficiency Optimization



Progress



Next Steps



Expansion



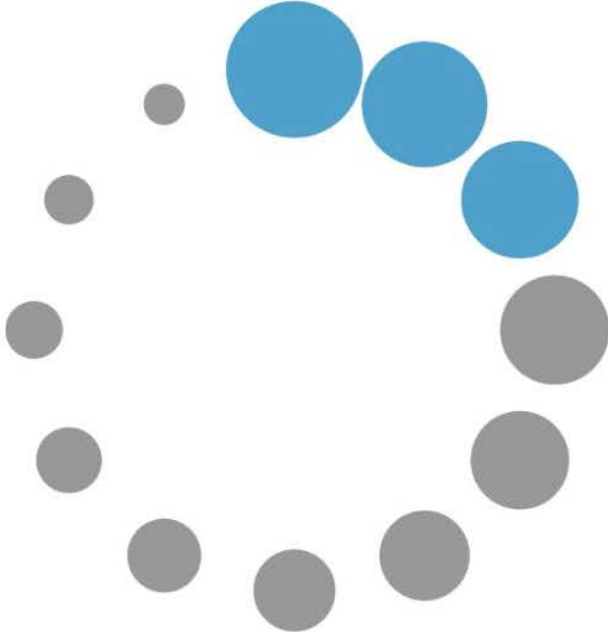
Take Away



ICF Energy Efficiency Products Workshop
Detroit, MI

August 3, 2017

Technology Progress



Market Trends

Internet

Auto

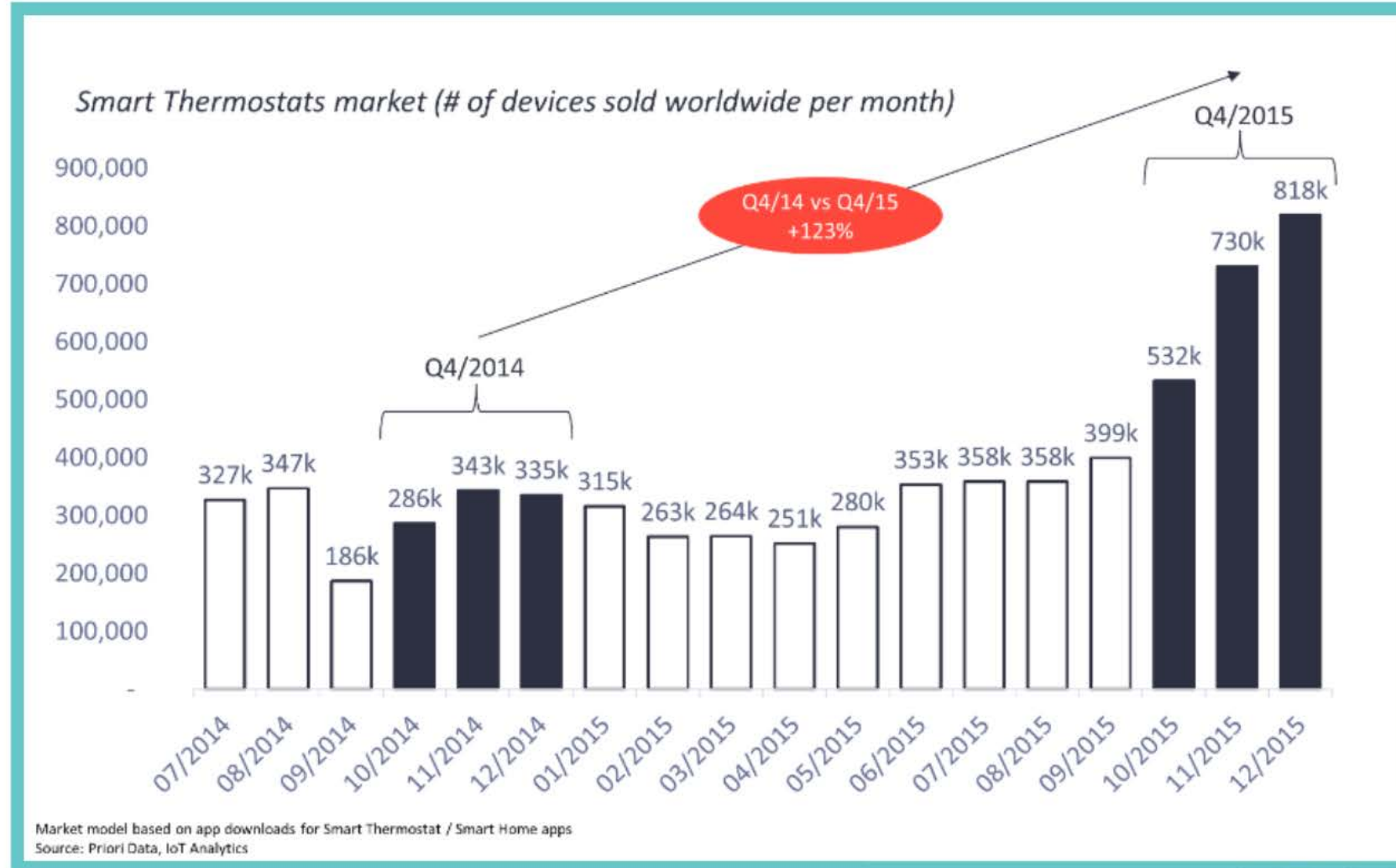
Transit

Thermostats



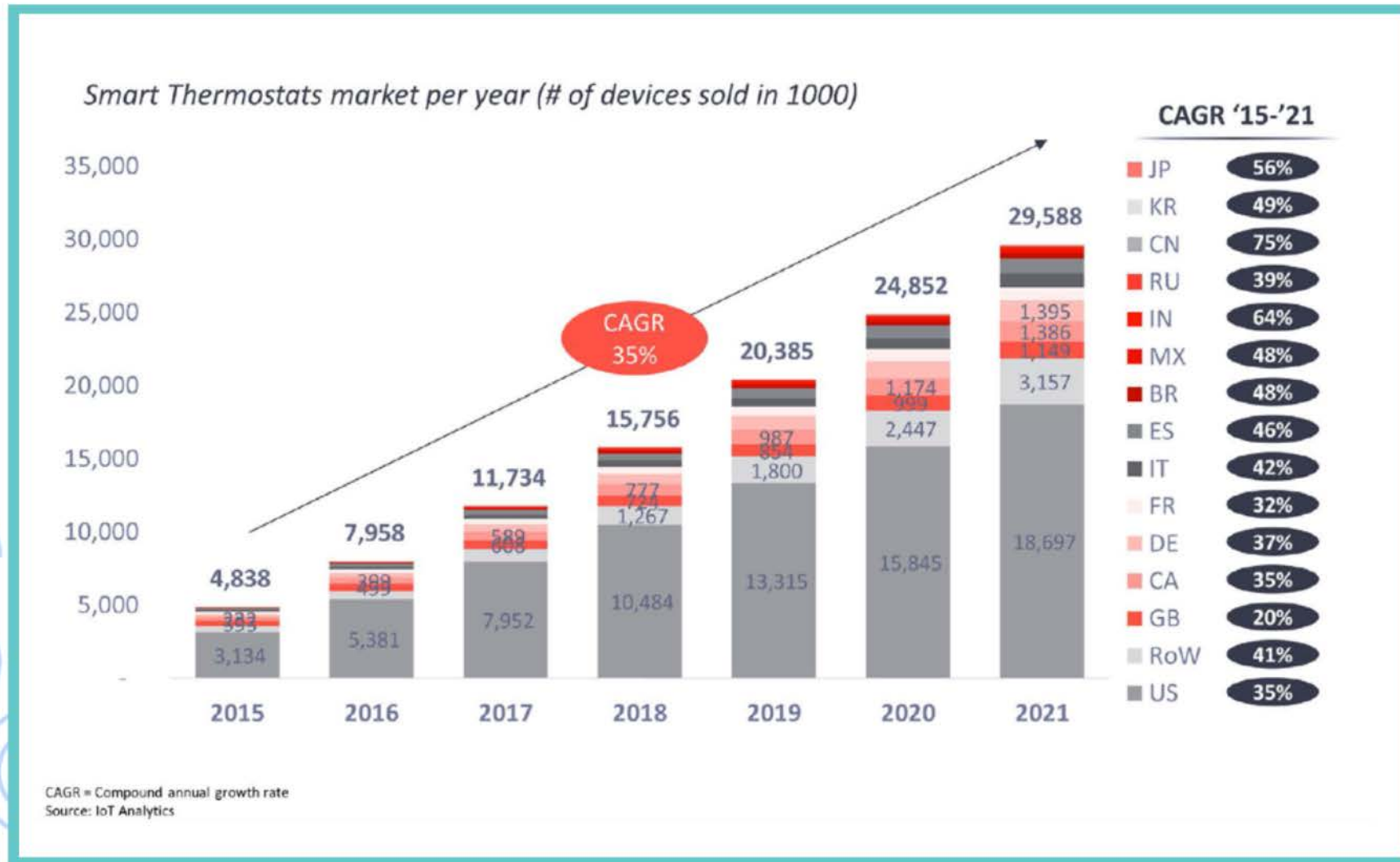
Growing Market

Global Smart Thermostat Sales Grew 123% in 2015



Continuing Growth

US Smart Thermostat Device Sales Projected to be 18+ Million by 2021



Source: Smart Thermostat Market Report and AESP 2017 National Presentation



Environment for Fast Adoption



North American Smart Thermostat Adoption Rate Expected to Reach 13% in 2017

Parks Associates Report

Adoption Rate Expected to Significantly Increase With Incentives:

"Rebate program that refunds \$100 to the consumer would expand percentage of households interested in buying a \$250 thermostat from 18% to 40%."

Parks Associates Report

Existing Utility Rebate Programs :

- 44 utility rebate programs
- 10 TRMs

Smart Thermostat Market Report and AESP
2017 National Presentation

Consumer and Builder Interest

ENERGY STAR Spec Released January 2017

App. 50% of homebuyers want/expect home to be equipped with smart home technology (smart thermostats most common feature mentioned/installed)

Coldwell Banker, ERA Real Estate, and HGTV Survey

Builders reacting to market demand:

- KB introduce connected thermostats in new communities
- Lennar launch Wi-Fi Certified Smart Home Designs

Internet



- Dial Up
- 56k Modems



- High Speed
- Wi-Fi

Auto



Transit

"Don't get in strangers' cars"



"Don't meet people on the internet"



Literally summon strangers from the internet to get in their car



Thermostats





Moving Past Go

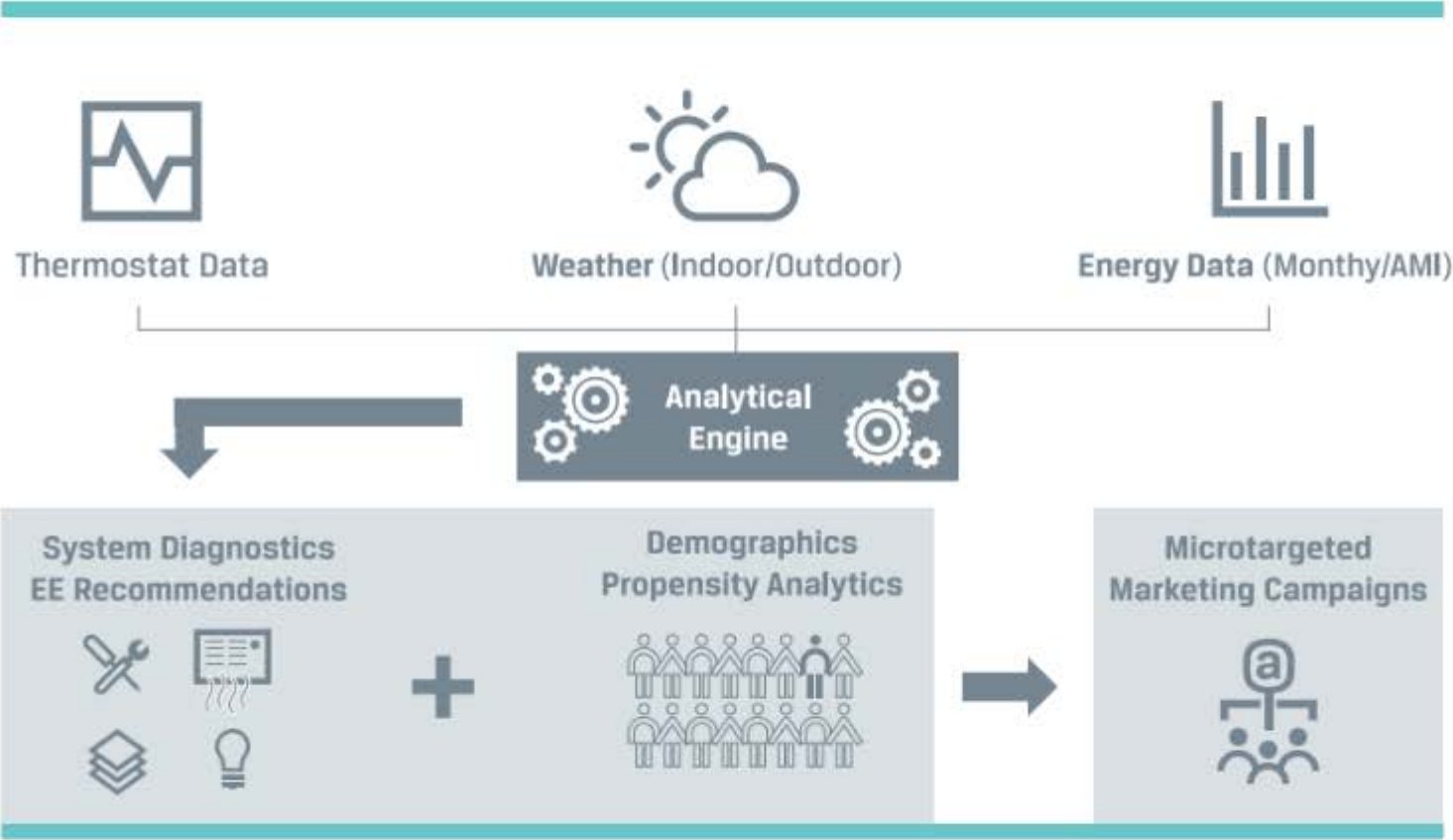
Leveraging Data

Layering Remote Opt.

Integrating Demand Response



Leverage Thermostat Data: Virtual Audits + Lead Generation



Data Analysis of SMECO's Smart Thermostat Pilot Leveraged Data to Produce Virtual Audits

- 31% great candidate for air sealing
- 15% targeted for shading (blinds/window tint/etc.)
- 13% likely need to adjust their AC settings
- 11% likely need insulation
- 9% likely need an AC tune-up



Dear Homeowner:

Thank you for taking part in SMECO's Smart Thermostat Pilot. We hope you are enjoying your ecobee3 thermostat. As part of the pilot, SMECO has been analyzing thermostat data to help you identify areas that could be causing high energy consumption.

It appears that your thermostat settings are not optimized for maximum energy efficiency. Ideally, you should set your thermostat at 78 degrees Fahrenheit in summer and at or below 68 degrees in winter. Small changes to your indoor temperature may take a little adjusting, but can bring significant savings to your energy bill.

Want to learn more? The Department of Energy has additional information available [here](#).

If you have any questions about the Smart Thermostat Pilot or any of SMECO's energy-saving programs, please visit [SMECO.coop/save](#) or call 1-877-818-4094.

Sincerely,

Jennifer Raley
Energy and Technology Programs Manager,
Demand Side Management
SMECO



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These programs support the EmPOWER Maryland Energy Efficiency Act.

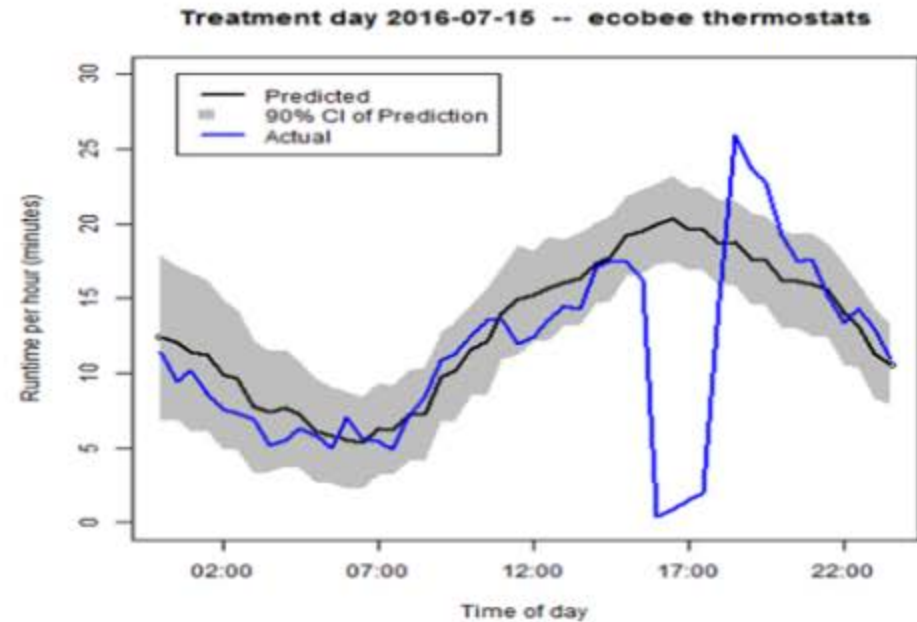
Layering Remote Optimization

- New cloud-based services optimize both Tier 2 and Tier 3 thermostats
- Optimization based on weather or schedule nudges
- Cost-effective program for providing additional savings beyond the initial thermostat installation
- ICF pilots have seen 90-225 additional kWh
- Depend on consistent Wi-Fi connection



Integration of Demand Response

- Average load reduction from 1.8 to almost 4 kW per device per event
- 2-way communications can increase customer engagement/satisfaction



Expansion to Multiple Devices: Smart Home and DERs

Next Sessions!



What is Smart Home?

10:00 – 11:00 AM

Julia Dalla Rosa, ICF

Emmett Romine, Powerley

Jeff Patton, GE

Hannah Bascom, Nest

Smart Home and Beyond

11:15 – 12:30 PM

Phil Austen, ICF

Jeff Patton, GE

Derek Kirchner, DTE



Take Away

Understand regulatory limits

Understand manufacturer compatibility and data requirements

Budget for APIs, data sharing, and connections

