

Scaling and Financing Smart Building Strategies

Investment & Finance for Clean Energy - The Cancun Call
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About Johnson Controls

130,000 Employees

Multi-industry

Founded 1885



Building Efficiency

Creating quality indoor environments that are comfortable, safe, energy efficient, and sustainable



Power Solutions

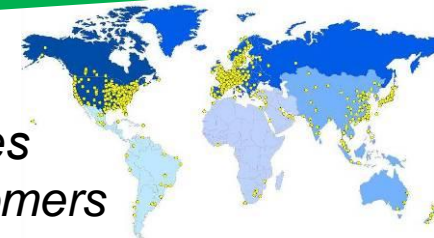
Providing the highest quality, lowest cost automotive batteries to power vehicles of today and tomorrow



Automotive Experience

Delivering world-class technologies that differentiate vehicle interiors and increase consumer demand

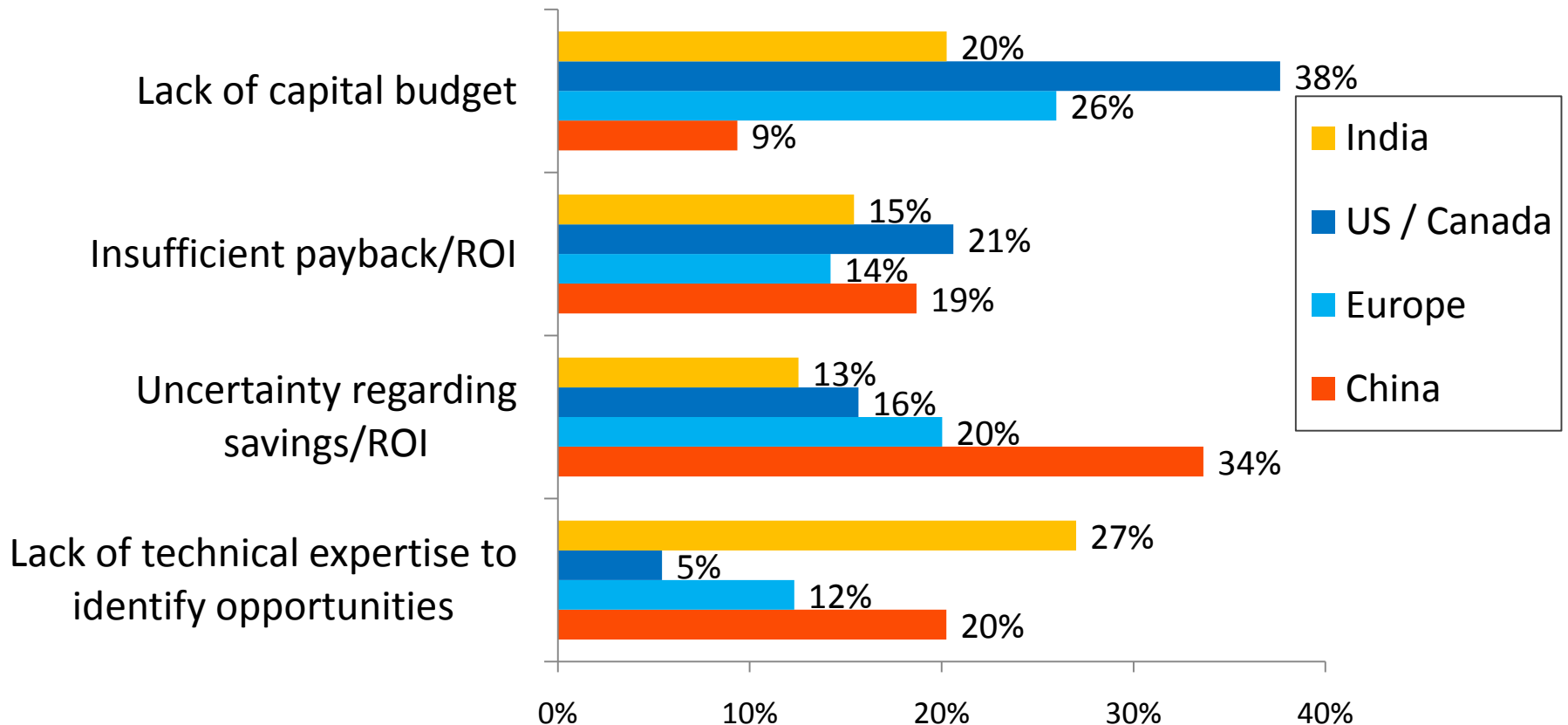
- *>200 million vehicles*
- *1/3 of world's automotive batteries*
- *1 million building efficiency customers*





Need certainty and more expertise in India and China Need capital in North American and Europe

What is the top barrier to capturing energy savings for your organization?





Toolbox for Scaling EE Deployment

Overcoming Barriers and Scaling Up Efficiency

1. Supportive policy framework
2. Flow of best practices and technology across global boundaries
3. Access to capital

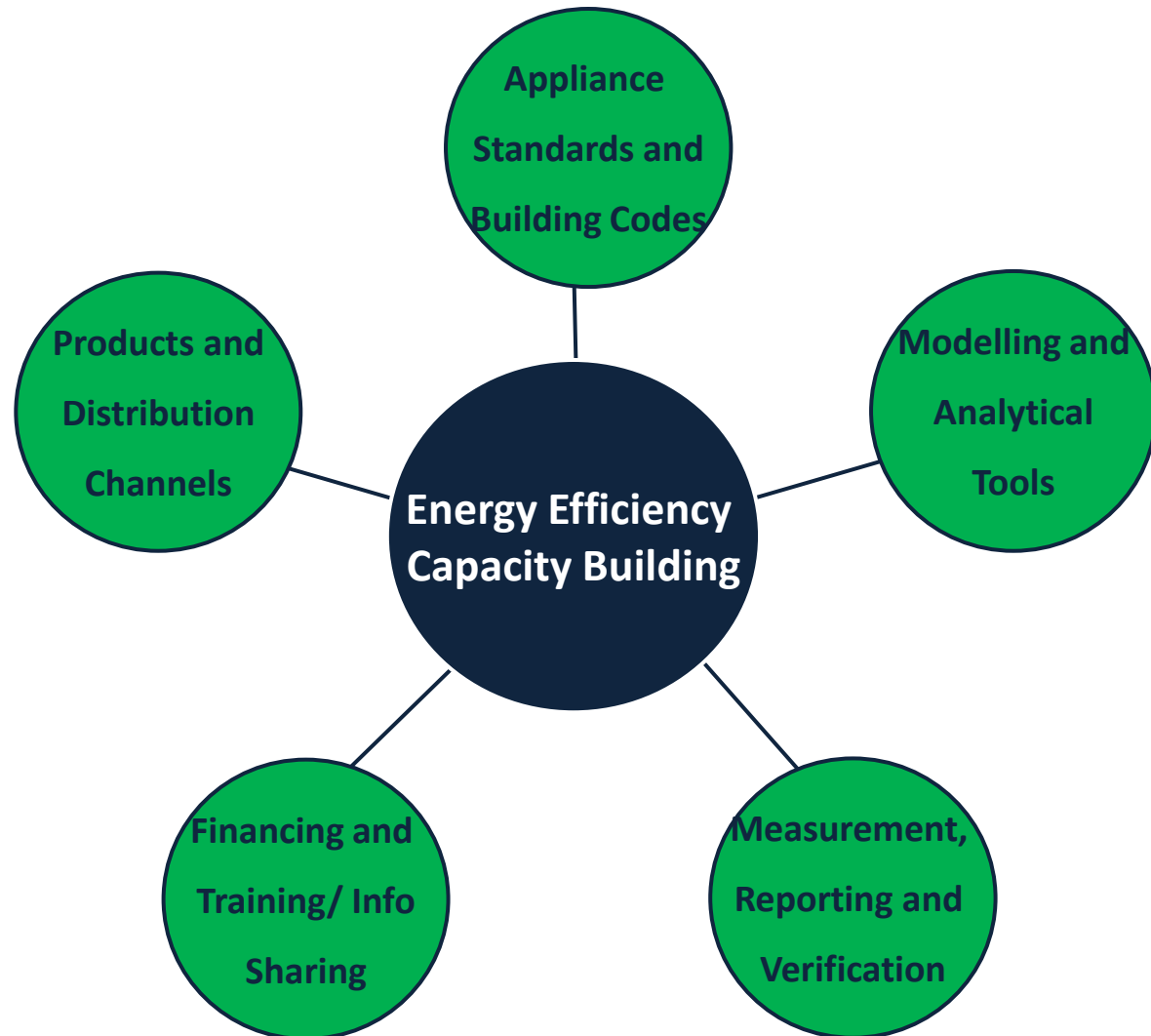
Key players

Private enterprise

Academic institutions

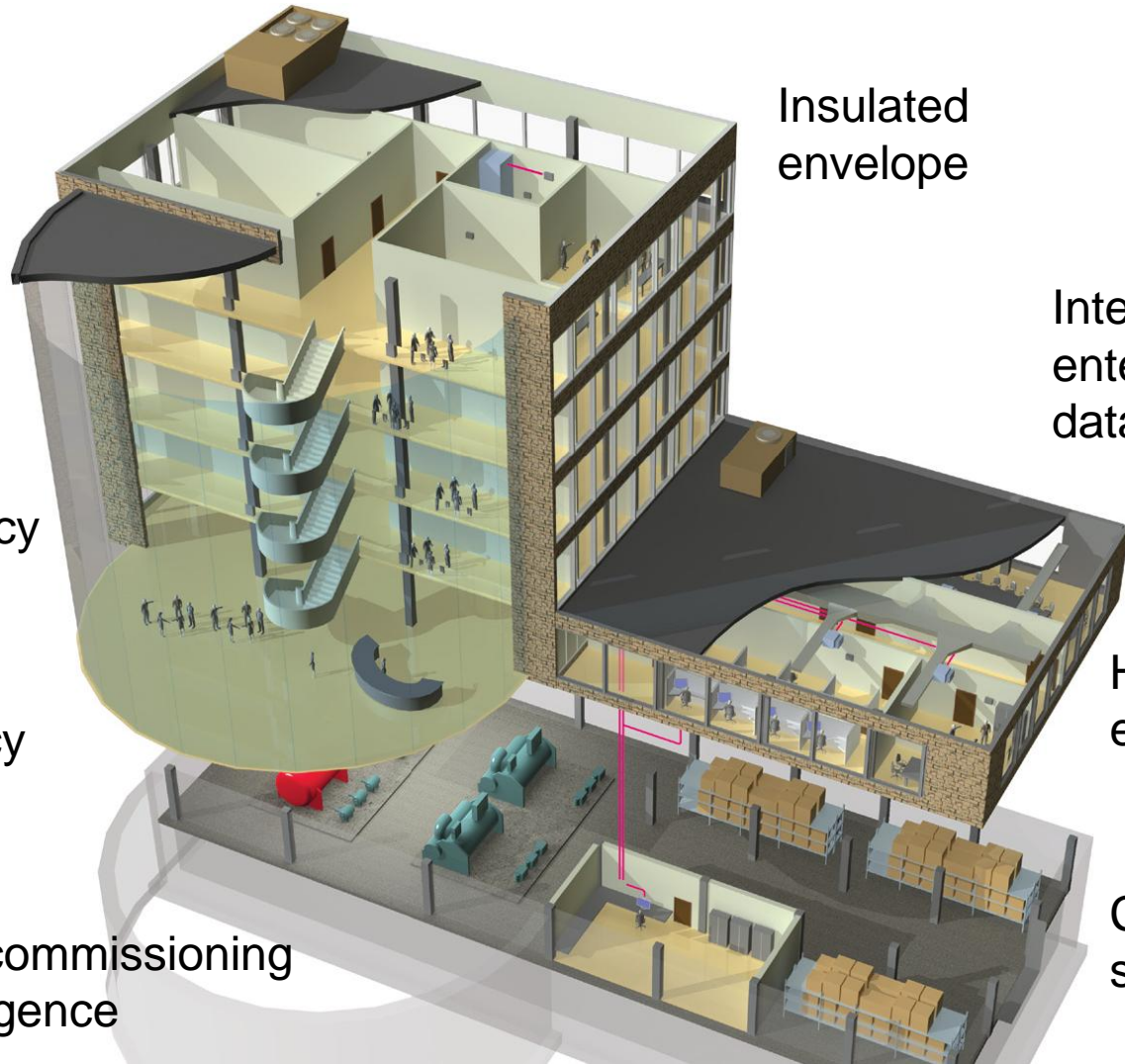
Governments

Advocacy groups





New Buildings – Design for High Performance and Efficiency



Maximize natural light

Insulated envelope

Interface to enterprise data systems

Advanced controls based on occupancy

High-efficiency electronics

High-efficiency equipment

Connection to smart grid

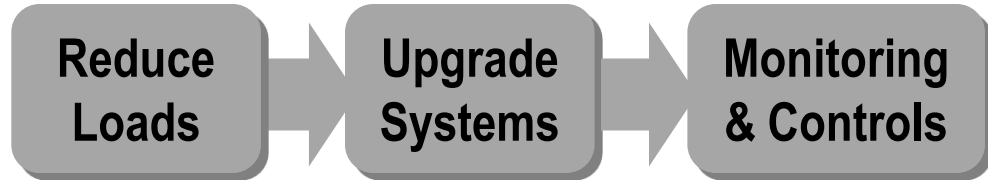
Self-commissioning intelligence

The smart, sustainable building



Existing Buildings: Encouraging Deep Retrofits

Right steps in the right order



- Windows
- Insulation
- Daylighting
- Green pre-builts
- Occupancy/photo sensors - lighting and plug loads

- Chiller plant retrofit,
- VSDs
- VAV air handlers

- Direct digital controls
- Demand-controlled ventilation
- Tenant energy mgmt system

RESULTS

38% energy savings

Simple payback under **3 years**

Anticipate **LEED Gold** certification

Energy Star **Top 10%** of U.S. office buildings

33% reduction in cooling load

Savings of **\$4.4 million** annually





Efficiency Now

It's Never Been More Important