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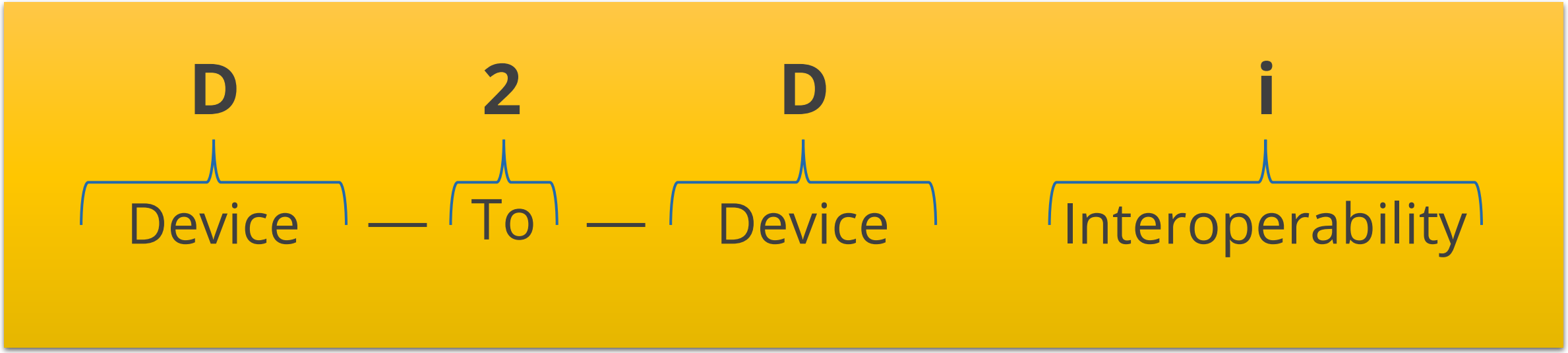
## Topic #1

# Let's Talk Interoperability – D2Di

## Device-to-Device Interoperability

# Introducing D2Di




Based on industry standards, D2Di provides QPL users with an indication of potential **interoperability** among SSL and NLC products.

# Interoperability

Two devices are interoperable if they **can function together as intended**, enabled by the ability to exchange actionable information.

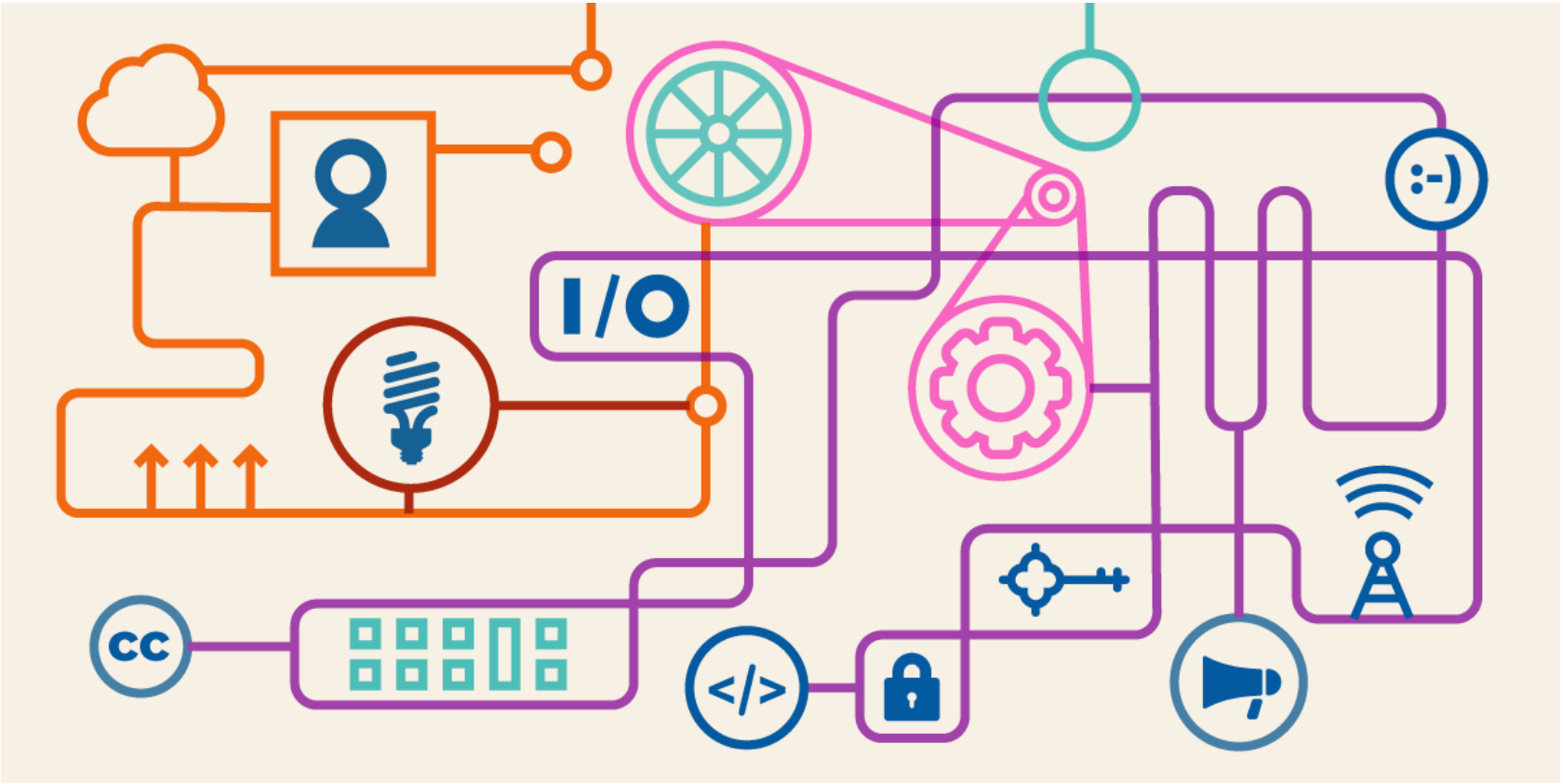



Image source: Electronic Frontier Foundation

# Interoperability ≠ Compatibility


Interoperable

Compatible


Non-Interoperable

Incompatible

Two devices are compatible if they **can coexist** in a system (or in the same physical environment) without corrupting, interfering with, or hindering the operation of the other.

# Why D2Di?

- Identifying and selecting interoperable equipment is challenging
- Interoperability barriers increase the risk of stranded savings
- Interoperability the key enabler for cross-system operation
- Interoperability can unlock non-energy benefits

# D2Di Goals

Increase emphasis on industry standards

- Compliance
- Certification

Enable easier selection and specification of interoperable equipment

Increase the number and likelihood of successful connected lighting projects

# D2Di Vision

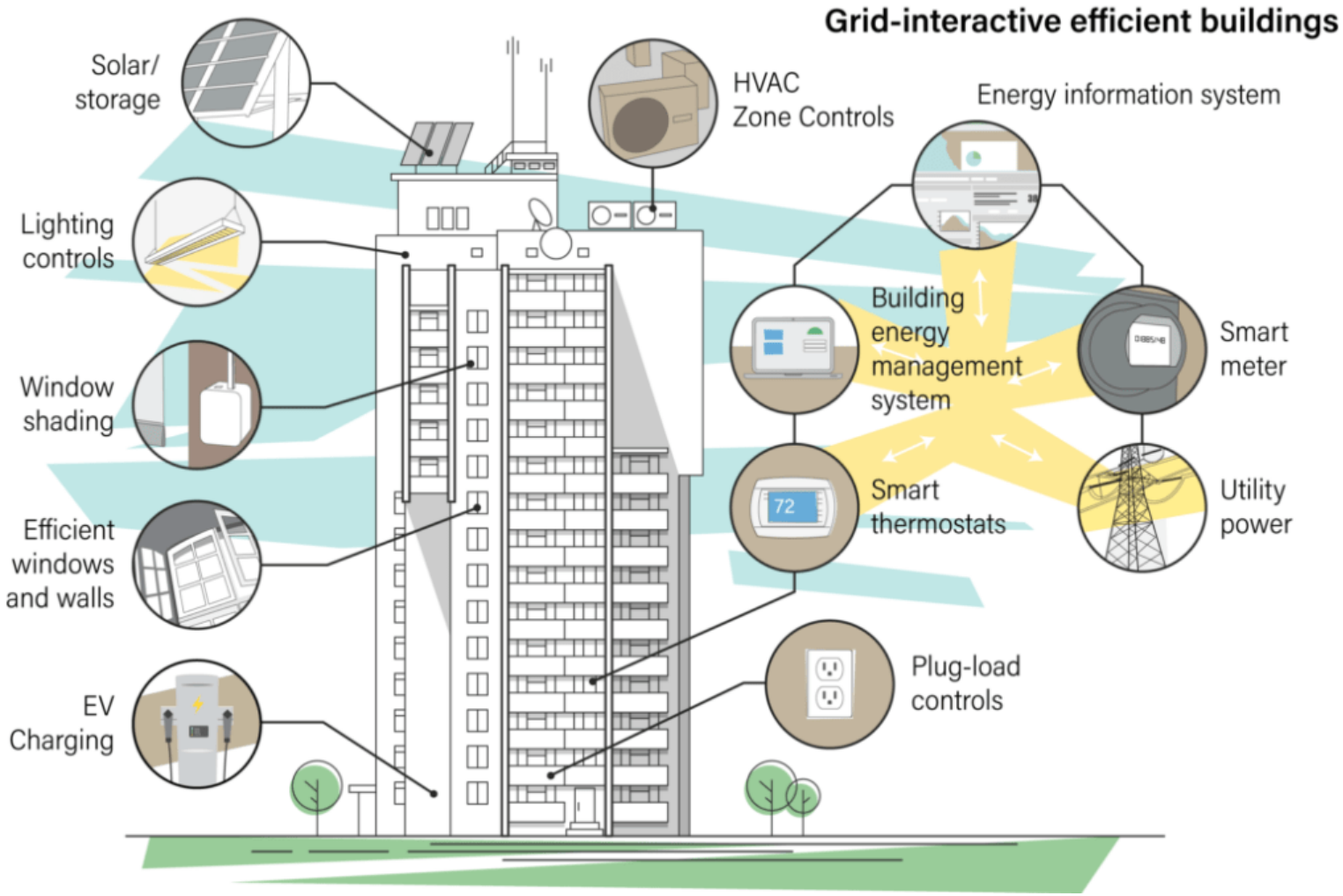



Image source: ACEEE "Grid-interactive Efficient Building Programs: State of the Market," November 2019

# Industry Standards

## Wired

DALI 2

D4

ASHRAE BACnet

Approved American National Standard ANSI

DMX512

ANSI C137.1-2019

## Wireless

Bluetooth (MESH)

5G

zigbee (3.0)

Wi Fi

enocean

# Discussion Questions

1. What are the benefits and challenges of interoperability?
   a) To efficiency programs?
   b) To manufacturers?
   c) To specifiers?
2. How can stakeholders influence issues that affect interoperability?
3. Do you think that a reliance on industry standards would improve the interoperability of luminaries and control devices? See reverse for industry standards currently under consideration.
4. How can systems that use proprietary communication be included in DLC6 and D2Di?
5. Beyond industry standards, what information can help QPL users identify interoperable equipment?