

Presentation Will
Begin Shortly

4:00

FEBRUARY SESSIONS

DATE	TIME	SESSION
THURS, FEBRUARY 6 TH	10 AM CT	What's New in Matter
TUES, FEBRUARY 18 TH	10 AM CT	Harvesting Energy for Smarter IoT with Silicon Labs' xG22E

MARCH SESSIONS

DATE	TIME	SESSION
THURS, MARCH 6 TH	10 AM CT	The Most Application-Optimized Bluetooth SoCs for Future-Ready IoT
TUES, MARCH 18 TH	10 AM CT	Introducing MG26, PG26, and BG26: A Highly Flexible SoC Platform for All of Your IoT Needs

FUTURE DATES

DATE	TIME
APRIL: THURS, APRIL 3 RD & TUES, APRIL 15 TH	10 AM CT
MAY: THURS, MAY 1 ST & TUES, MAY 13 TH	10 AM CT
JUNE: THURS, JUNE 5 TH & TUES, JUNE 17 TH	10 AM CT

What's New in Matter

February 2025

2025
tech **talks**
WEBINAR SERIES



MATTER

Agenda

- 01** General Overview
- 02** Energy Management Devices
- 03** Improved Infrastructure / Ecosystems Support
- 04** Improved Battery Devices – Long Idle Time (LIT)
- 05** Matter Certification Updates
- 06** Do we need an All-in-one App?
- 07** Studio SDK Support

General Overview



Matter Overview

- **Connectivity Standards Alliance manages the Specification and Open-Source SDK**
- **The Working Group generally releases new Specs and SDK 2x per year: Fall and Spring**
 - Silicon Labs releases product ready Matter versions with our SDK at same time as CSA launches
- **Releases can include new devices or updates to existing devices and brand-new functionality**
- **The Working Group recommends updates to the latest spec to ensure devices function well for users**

Matter Releases

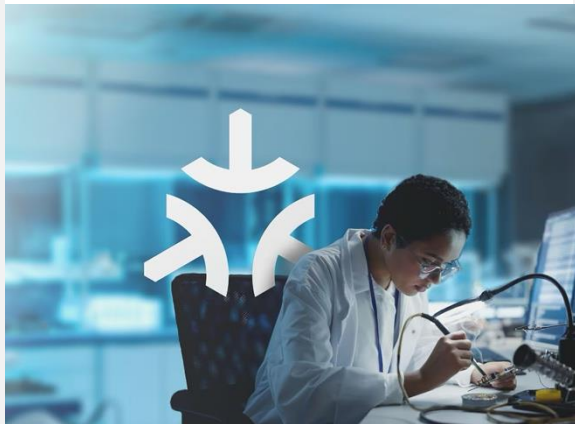
MATTER 1.0

Launched: **November 2022**

Device Types: 34

Major Features:

- Standardized BLE Based Commissioning
- Wi-Fi and Thread support
- Manufacturer Authentication
- Compatibility with major home ecosystems
- Integration of many Zigbee Device Types



MATTER 1.1

Launched: **May 2023**

Device Types: 34

Major Features:

- General Improvements for Battery Powered Devices
- Testing Automation for Pre-qualification



MATTER 1.2

Launched: **October 2023**

Device Types: 43

Major Features:

- Appliances
- Improved Battery life for actuators (short idle time)
- Robot Vacuums
- Device Appearance Description
- Generic Operating States (Start / Stop / Pause)



MATTER 1.3

Launched: **May 2024**

Device Types: 54

Major Features:

- More Appliances
- Energy Management Devices
- Enhanced Entertainment Controls for Media Players
- Scenes





Matter 1.4 Overview

Mounted On/Off and Dimmable Load Control

- New device type for on/off devices
- Previously seen mainly as "lights" and that could confuse users or limit controller interactions

Enhancements to Occupancy Sensing

- Radar, vision and ambient sensing
- Customized Sensitivity Settings
- History reporting through event-based updates

Energy Management Devices

- Management and energy reporting of any Matter enabled device

Very Sleepy Device Support

- Increase how long devices can sleep from 15 seconds to 18 hours

Improvements to Infrastructure and Ecosystems

- More opportunities to use Thread based devices thru 3rd Party Border Routers
- Enhanced Multi-admin to synchronize device lists between commissioners
- Interoperability testing through Connectivity Standards Alliance

New and Updated Energy Management Devices





Energy Management Devices

Matter 1.3 introduced reporting of estimated and actual measurements

Energy and power consumption or generation including power, voltage and current

- Electrical Power Measurement, Electrical Energy Measurement, Power Topology clusters for reporting
- Device Energy Management, Energy EVSE and Appliances clusters for consumption control

Matter 1.4 added new and updated device types for energy management

- New device types
 - Solar Power
 - Batteries
 - Heat Pumps
 - Water Heaters
- Updated device types
 - Electric Vehicle Supply Equipment (EVSE)
 - Thermostats

Energy management and mode improvements

- Enables energy consuming device to adjust based on energy forecast and power management

What's New in Matter v1.4 for Energy Management – Device Types

New Device Types

▪ **Solar Power**

- Report power and energy production from Solar Power device types, including inverters, individual and panel arrays, and hybrid solar/battery systems.

▪ **Batteries**

- Enabled by home energy management systems, they support load balancing, with any controller potentially serving as the management system.

▪ **Heat Pumps**

- Devices can forecast consumption and adjust usage during peak demand. Heat pumps can shift energy use to off-peak times, such as pre-heating the home.

▪ **Water Heaters**

- Device can be set to a preset temperature or percentage, letting users monitor hot water levels. A boost command, which enables rapid heating from multiple energy sources for situations where hot water is needed quickly, allows temporary overrides in the heating schedule, ideal for situations like hosting guests. This gives consumers more control and flexibility.

What's New in Matter v1.4 for Energy Management - Clusters

New Clusters

▪ **Device Energy Management Mode cluster**

- Enables easy toggling between device-specific, local, or grid-wide energy optimization, providing greater flexibility and efficiency for managing power across the home.

▪ **Water Heater Mode cluster**

- Provides users with the ability to easily toggle scheduling on and off, making it simple to adjust heating patterns when normal routines change.

Enhancements to existing clusters

▪ **Electric Vehicle Supply Equipment (EVSE):**

- Introducing user-defined charging preferences like specifying when they want their car to be charged, allowing users to choose optimal times for convenience and cost

▪ **Thermostats:**

- Added support for scheduling and preset modes like vacation and home/away settings. Presets can be triggered through motion detection, integrated with other devices, and even automation based on calendar events.

▪ **Device Energy Management**

- Matter 1.4 allows energy-consuming devices to adjust start times based on energy usage forecasts and power management needs.

Energy Management Device Types and Clusters in Matter Today

DEVICE TYPES

- **Solar Power** - Inverters, solar panels, hybrid solar/battery systems.
- **Batteries** - Battery walls, storage units, Battery Energy Storage Systems (BESS).
- **Electric Vehicle Supply Equipment (EVSE)**
- **Water Heater**
- **Heat Pump / Thermostat**
- **Appliances**
 - Oven, Dryer, Washer, Dishwasher, Microwave
- **Utility Device types**
 - Device Energy Management
 - Electrical Sensor
 - Power Source

CLUSTERS

- **Electrical Power Measurement**
- **Electrical Energy Measurement**
- **Power Topology**
- **Water Heater Management**
- **Device Energy Management**
- **Device Energy Management Mode**
- **Energy EVSE**
- **Energy Preference**
- **Demand Response Load Control (DRLC)**

Matter Energy Examples

EVSE

Commands / attributes:

- Set min/max charge current
- Start/Stop, delayed start
- Enable charging until (clock)
- Set required energy target
- ...and more

Use Cases

- Breaker protection
- User preferences for state of charge
- Aligning charge schedule with lowest energy cost hours

WATER HEATER

Commands/attributes:

- Heat Demand
- Tank Volume
- Estimated heating required
- Boost

Use Case

- Build usage profiles for optimal energy consumption during lowest cost hours
- Boost heating for convenience during excess usage events

APPLIANCE AND EMS (ENERGY MANAGEMENT SYSTEM)

Commands/Attributes:

- Min/Max Power allowed
- Forecast
- Power Adjust
- Pause/Resume

Use Cases

- Optimize washing cycle with energy costs and user requirements
- Limit power draw to balance total consumption



Where are we seeing market interest

Bridging Controllers

- Combining existing energy management ecosystems with Matter

EVSE systems

- Systems protecting fuses/circuit breakers with demand response load control cluster
- Matching charging profile with energy price curves and user needs

Grid operators and energy producers

- Looking to build residential energy management systems to give more flexibility for ensuring grid stability and customer loyalty

Appliance makers

- Building energy-aware appliances is becoming increasingly important as energy regulations are becoming more stringent.
- Local Control through Matter means a proprietary cloud service is not always necessary and can save costs while still providing functionality.

Low Power Consumption for Battery Powered Devices





Actuators and Sensors

Battery powered devices

- Need to sleep to conserve battery life while maintaining a reliable connection to the network
- Losing a connection to the network delays wakeup time which may be critical for an event and increases current consumption

Actuators are battery powered devices that sleep for short durations (seconds)

- They wake up frequently to look for data or commands

Locks and shades are great examples as they wake up every 3-5 seconds to look for a command

- Short Idle Time (SIT) addresses these devices types
 - Introduced in version 1.2
 - Enables devices to sleep for up to 15 seconds while maintaining a reliable connection to the network

Switches and sensors are battery powered devices that sleep for long durations (minutes to hours)

- They wakeup on an event (like a button push or a door opening) and transmit data to parent
- They wakeup on a set interval to provide a status (temperature) or heartbeat
- Long Idle Time (LIT) addresses these devices
 - Introduced in version 1.4
 - Enables devices to sleep to up to 18 hours while maintaining a reliable connection to the network

Matter 1.4 Long Idle Time Demonstration

https://youtu.be/vJG_EUVbn-0?si=rUrDliWInyPXU0zp

Improved Infrastructure and Ecosystems Support



Improved Infrastructure

- **Matter certifiable Home Routers and Access Points**

- Certified devices that support both Matter over Wi-F and Matter over Thread
- Supports storing and sharing Thread network credentials to support multiple OTBRs

- **Multi-Admin improvements**

- Enhanced multi-admin enables devices on multiple ecosystems with a single user consent
 - Eliminates the need to enable each device individually
- Existing Matter Ecosystems can share all devices it manages with another ecosystem with a single user interaction

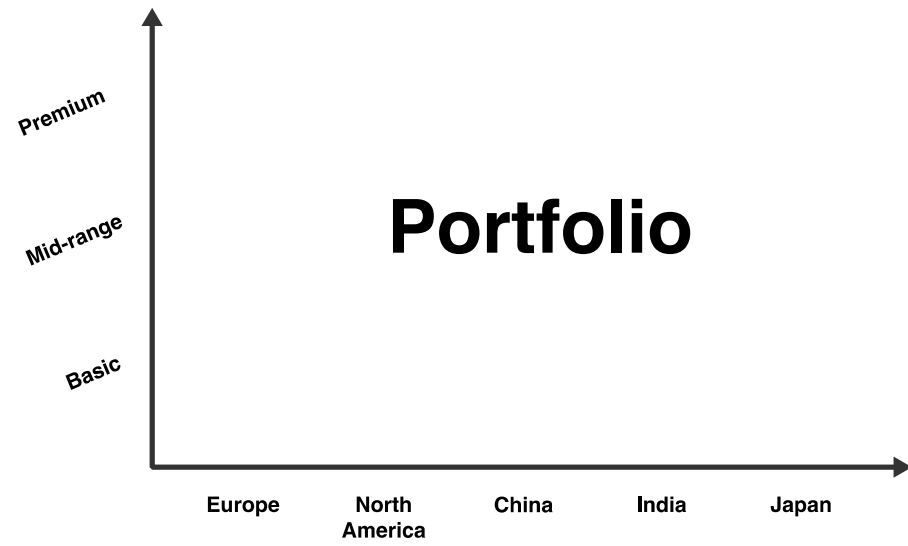
- **Interoperability Lab by the Connectivity Standards Alliance**

- All Major ecosystems and many devices are present in a single location know as the Alliance Interop Lab
- Have ability to run and report on a device's real-world interoperability before launch or a new software update
- Provided as a free service to all Alliance members
- Used to provide feedback to the standard

Matter Certification Updates

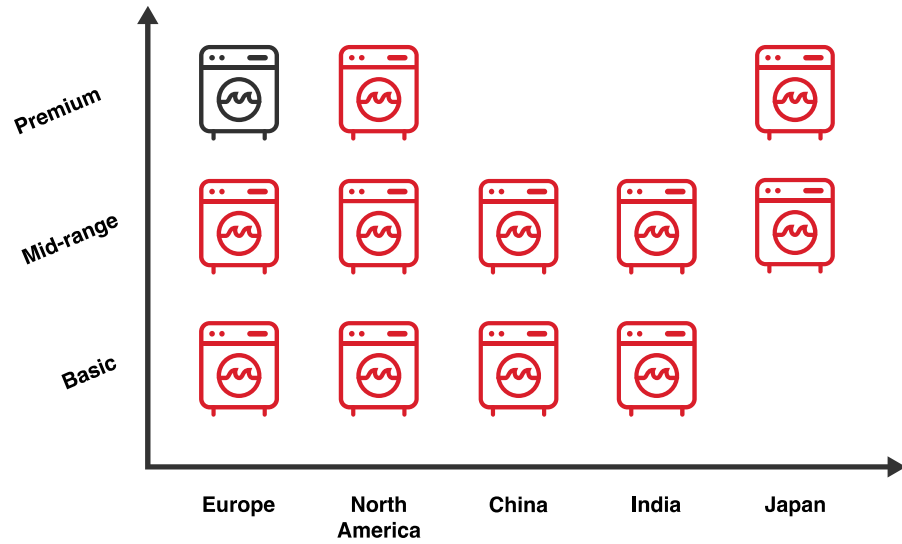




Portfolio Certification



- **Designed to simplify and streamline the Family Certification Program and Certification by Similarity**
- **Portfolios covers products with similar features sets and regional variations**
 - Feature sets can be color, vs, white, dimmable vs, on/off, etc.
 - Regional variations include currency power, etc.

Portfolio Certification



 **Parent**
 **Child Variant**

- Designed to simplify and streamline the Family Certification Program and Certification by Similarity**
- Portfolios covers products with similar features sets and regional variations**
 - Feature sets can be color, vs, white, dimmable vs, on/off, etc.
 - Regional variations include currency power, etc.
- Requires a “Superset” part**
 - Parent (superset) is a certified, shipping device
 - Other devices in portfolio must be same or subset of features

- Portfolio Fees are the Same as Family Fees**

Member Level	New Family Fee	New Portfolio Fee
Promoter	\$4000	\$4000
Participant	\$4000	\$4000
Adoper	\$8000	\$8000

- Portfolio Certification option on Certification Web Tool Dashboard**



Advantages of FastTrack Recertification

Encourages rapid improvements in products

Zero Fee approach

Enables faster deployment of bug and security fixes

Improves quality, usability of products

Caveats to Fast Track Recertification

- Product must have initial certification
- Members can self-test to verify compliance
 - Must qualify and be trained on proper use of Matter Certification tools
- New functionality must be tested at ATL
- Members covered for IPR at the time Recertification is issued by Alliance
- Member must submit 2 units to the Interop Lab for testing

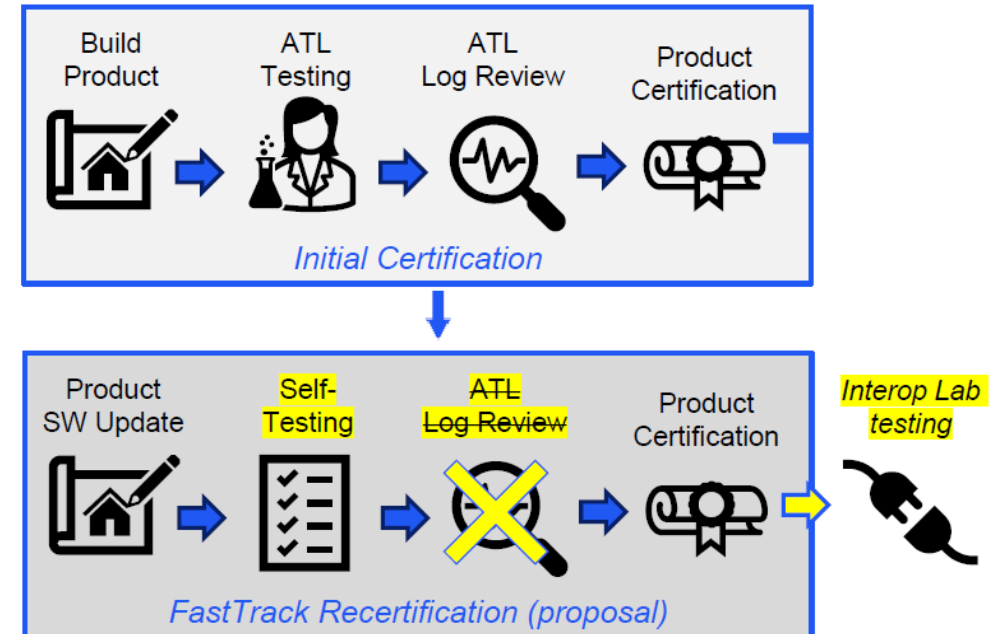
FastTrack Recertification

▪ Updates to address recertifications issues

- Matter specification and SDK is being updated often
- Recertification delays important updates delays
- Recertification fees are considered a barrier to updates
- Rapid Recertificating addressed this partially

▪ Introducing Fast Track Recertification

- Designed to streamline the process and reduce cost
- Can be applied to product that have already been certified
 - Includes CbS, CTB and PPC programs
- **Members can self-test** and store the logs
 - No ATL review is needed
- Can upgrade to a newer version of the Matter SDK
 - Self-test on previously certified features; new features must be tested by an ATL
- Zero Alliance Recertification fee
 - Note: not all members or product will qualify for FastTrack
 - Required Promoter or Participant member level



Requirements

- Members must be trained by Alliance Staff on the test harness
- Members must submit 2 units to Interop Lab
- Members must store logs for 5 years
- Only for recertification of a product that has not changed

All in One App?





One App to Rule them All?

There will not be One App to Rule them All because there is multiple app categories

- **Generalist Smart Home Apps**

Apps that can do most features and are likely to be the standard go to app

Most like the Ecosystem app

- **Device Feature Apps**

Apps from the specific device makers that have features/functions that are not defined in Matter

Unique to the device make and provides them with differentiation

- **Services Apps**

3rd party apps that are not necessarily tied to a product, but services, such as Energy Management

Work with different devices, but focus on provides services that are enabled by Matter

- [An All in One Smart Home App](#) blog

Studio SDK Support



Matter SDK Support

- **Matter Extension v2.4 or greater**

- Matter Sample Applications

- ▶ Thread – Air Quality Sensor, Dishwasher, Light Switch, Light, Lock, Multi-Sensor, On/Off Plug, Refrigerator, Thermostat, Window Covering
- ▶ Wi-Fi - Air Quality Sensor, Dishwasher, Light Switch, Light, Lock, Multi-Sensor, On/Off Plug, Refrigerator, Thermostat, Window Covering, Fan Control
- ▶ ZCL ZAP Support for other

- LIT sample app support

- ▶ Sensor Apps all enabled with Long Idle Time Support (LIT)

Matter - SoC Fan Control over Wi-Fi

This project builds a Matter Fan Control App that can be developed inside Simplicity Studio

CREATE

[View Project Documentation](#)

Matter - SoC Air Quality Sensor with external Bootloader Solution

This project builds a Matter Air Quality Sensor Over Thread app that can be developed inside Simplicity Studio.

CREATE

[View Project Documentation](#)

Matter - SoC Lighting over Wi-Fi

This project builds a Matter Light that can be developed inside Simplicity Studio

CREATE

[View Project Documentation](#)

Matter - SoC Light Switch over Thread with external Bootloader

This project builds a Matter Light Switch and Matter External Bootloader that can be developed inside Simplicity Studio

CREATE

[View Project Documentation](#)

Matter - SoC Multi Sensor over Wi-Fi

This project builds a Matter Sensor App that can be developed inside Simplicity Studio

CREATE

[View Project Documentation](#)

Matter - SoC Lock over Thread with external Bootloader

This project builds a Matter Lock and Matter External Bootloader that can be developed inside Simplicity Studio

CREATE

[View Project Documentation](#)

Matter - SoC Refrigerator over Wi-Fi

This project builds a Matter Refrigerator app for Wi-Fi SIWx917 that can be developed inside Simplicity Studio

CREATE

[View Project Documentation](#)

Matter - SoC Onoff Plug over Thread with external Bootloader

This project builds a Matter Onoff Plug and Matter External Bootloader that can be developed inside Simplicity Studio

CREATE

[View Project Documentation](#)

Q&A



Thank you



FEBRUARY SESSIONS

DATE	TIME	SESSION
THURS, FEBRUARY 6 TH	10 AM CT	What's New in Matter
TUES, FEBRUARY 18 TH	10 AM CT	Harvesting Energy for Smarter IoT with Silicon Labs' xG22E

MARCH SESSIONS

DATE	TIME	SESSION
THURS, MARCH 6 TH	10 AM CT	The Most Application-Optimized Bluetooth SoCs for Future-Ready IoT
TUES, MARCH 18 TH	10 AM CT	Introducing MG26, PG26, and BG26: A Highly Flexible SoC Platform for All of Your IoT Needs

FUTURE DATES

DATE	TIME
APRIL: THURS, APRIL 3 RD & TUES, APRIL 15 TH	10 AM CT
MAY: THURS, MAY 1 ST & TUES, MAY 13 TH	10 AM CT
JUNE: THURS, JUNE 5 TH & TUES, JUNE 17 TH	10 AM CT