Does it, Matter in CPE?

A short introduction

Your freedom.
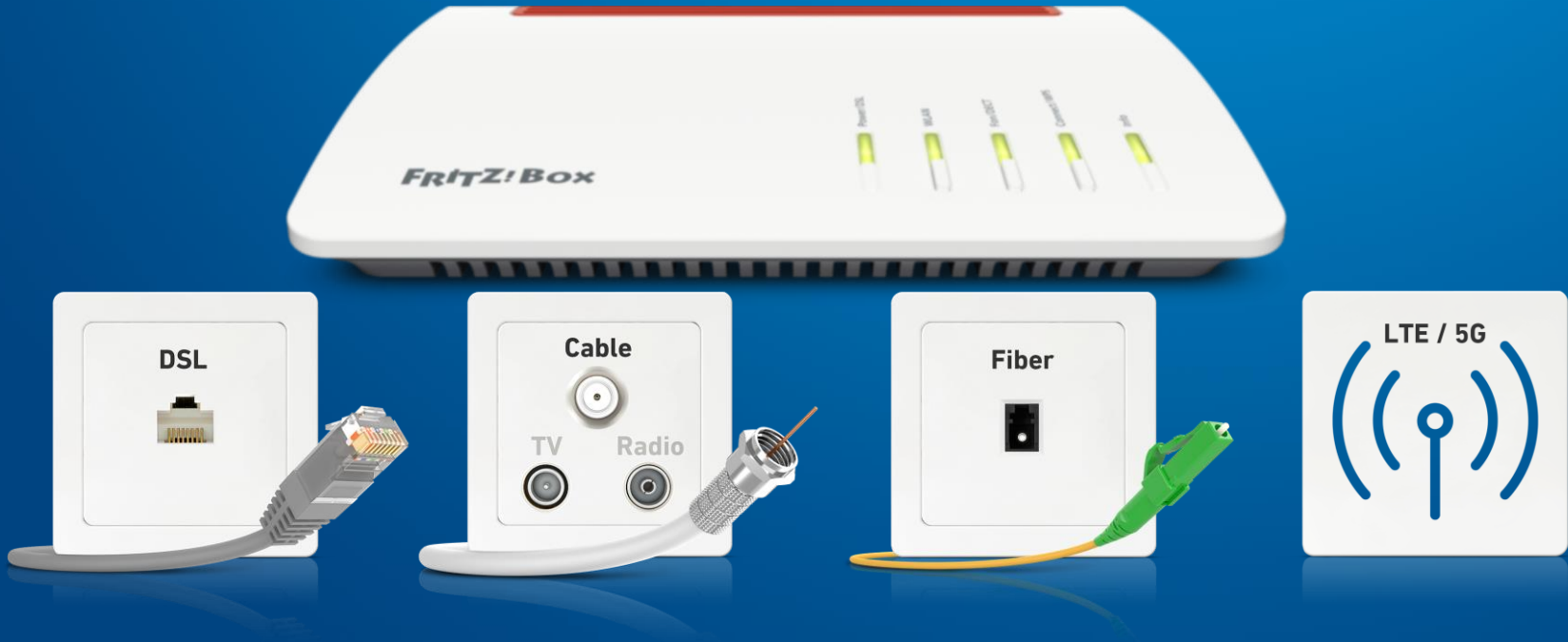Your home.
Your FRITZ!

RIPE 87 Rome
AVM: **AS203965**

Eric van Uden

avm.de

FRITZ!Box for every connection

AVM start Into SmartHome: FRITZ!DECT 200

- Automatic switching and monitoring

- Calendar function and other automated programs

- Measures and evaluates power consumption

- Temperature sensor

- DECT ULE technology, secure energy efficient

- Update function for new features

DECT-ULE

- DECT-ULE stands for Digital Enhanced Cordless Telecommunications Ultra Low Energy.

- It is a low-power, low-latency wireless communication protocol designed for smart home devices.

- DECT-ULE is based on the DECT standard, which is a widely used standard for cordless phones.

- DECT-ULE offers a number of advantages over other wireless protocols for smart home devices, including:

    - Low power consumption: DECT-ULE devices can run for months or even years on a single battery charge.

    - Low latency: DECT-ULE can provide latency as low as 10 milliseconds, which is ideal for time-sensitive applications such as controlling lights or locks.

    - Security: DECT-ULE uses strong encryption to protect data from unauthorized access.
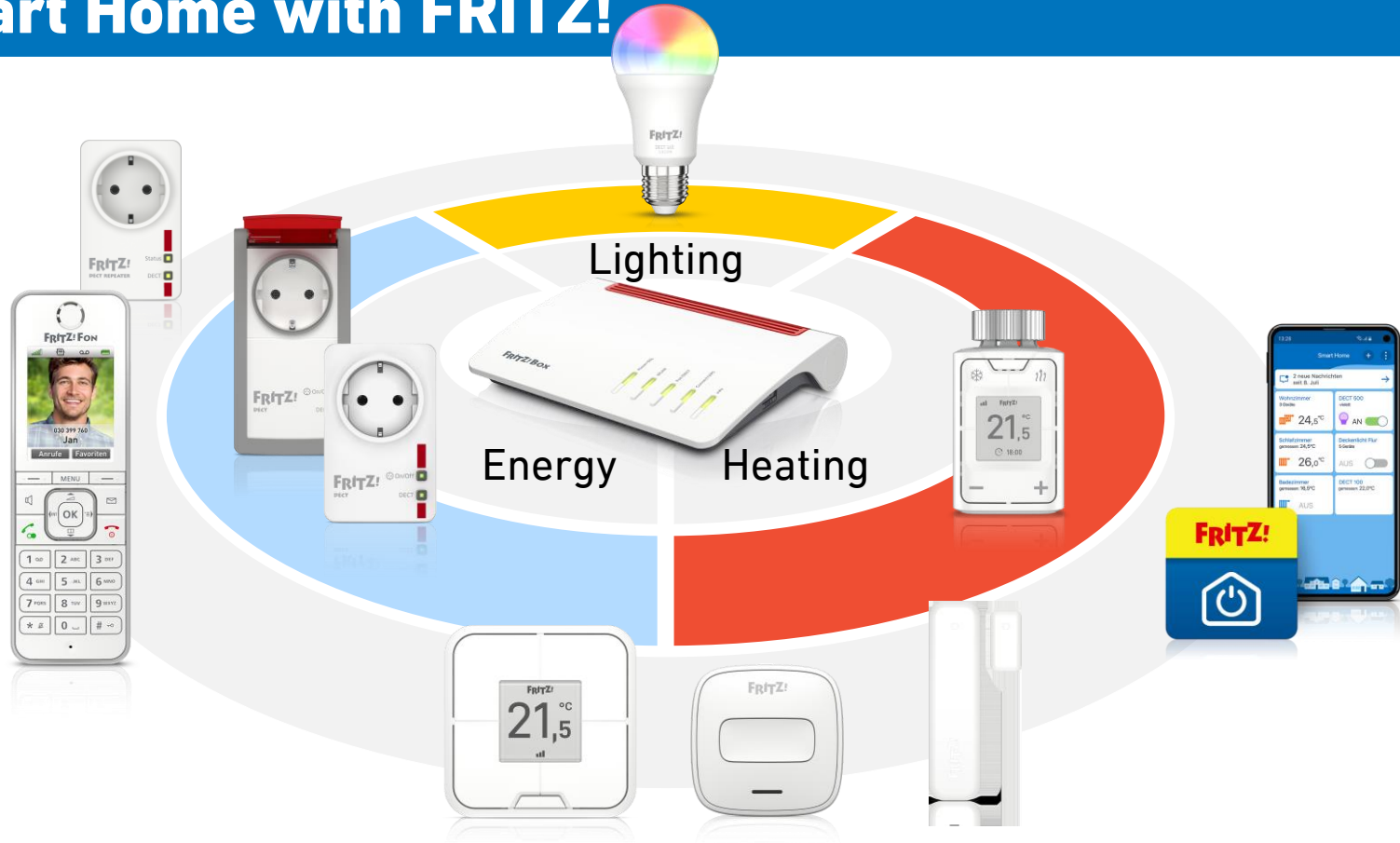
Innovation
More Smart Home with third-party manufacturers

The New Smart Home Protocol

What is Matter?

- A new smart home protocol

- Developed by Amazon, Apple, Google, IKEA, Samsung, and more

- Aims to simplify the use of smart home devices

- Matter also works without the Internet, but cloud services are required for remote control.

Benefits of Matter

- Unity: Matter devices work together, regardless of manufacturer

- Security: Matter is based on secure standards, such as WPA3 and TLS 1.3

- Energy efficiency: Matter is energy-efficient

- Matter is designed to be interoperable with existing smart home devices.

- Matter is expected to be widely adopted by smart home manufacturers in the coming years.

How Matter Stacks Up
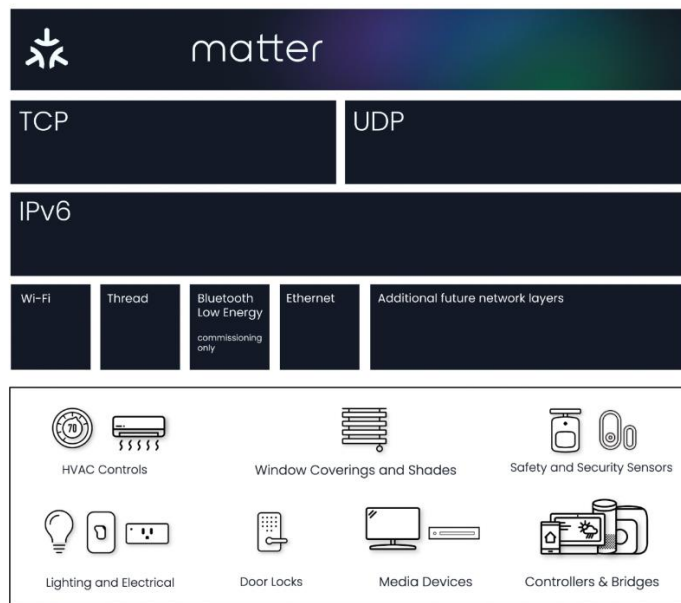
Common application layer
Interoperability, simplified setup & control

IP-based
Convergence layer across all compatible networks

Secure
Comprehensive, Layered, Resilient, Agile
AES-128-CCM encryption with 128-bit AES-CBC

Common protocol across devices
Extendible to cloud

Common data model
Core operational functions, multiple device types

Low overhead
MCU-class compute, <128KB RAM, <1MB Flash

Source: CSA Matter Components Technical Introduction

FRITZ!Smart Gateway

- Integrates LED lights via Zigbee into the FRITZ! Smart Home

- Increases the number of DECT ULE devices you can use in the Smart Home

- Register new devices at the touch of a button

- Manage and operate all devices in the FRITZ!Box user interface

- Control via FRITZ!App Smart Home or FRITZ!Fon

- Stable connection to FRITZ!Box via WLAN (2.4 GHz) or LAN

- Charge devices via USB port (500 mA)

FRITZ!Smart Gateway as Matter Bridge

- Enables the use of DECT-ULE devices in a Matter ecosystem

  - Integration of Matter in FRITZ!OS for the FRITZ!Smart Gateway

  - Using the FRITZ!Smart Gateway as a Matter Bridge

  - Control of FRITZ!Smart Home devices with an app with Matter support registered on the FRITZ!Box

FRITZ!Smart Gateway as Matter Bridge

Extends the FRITZ!Smart Home
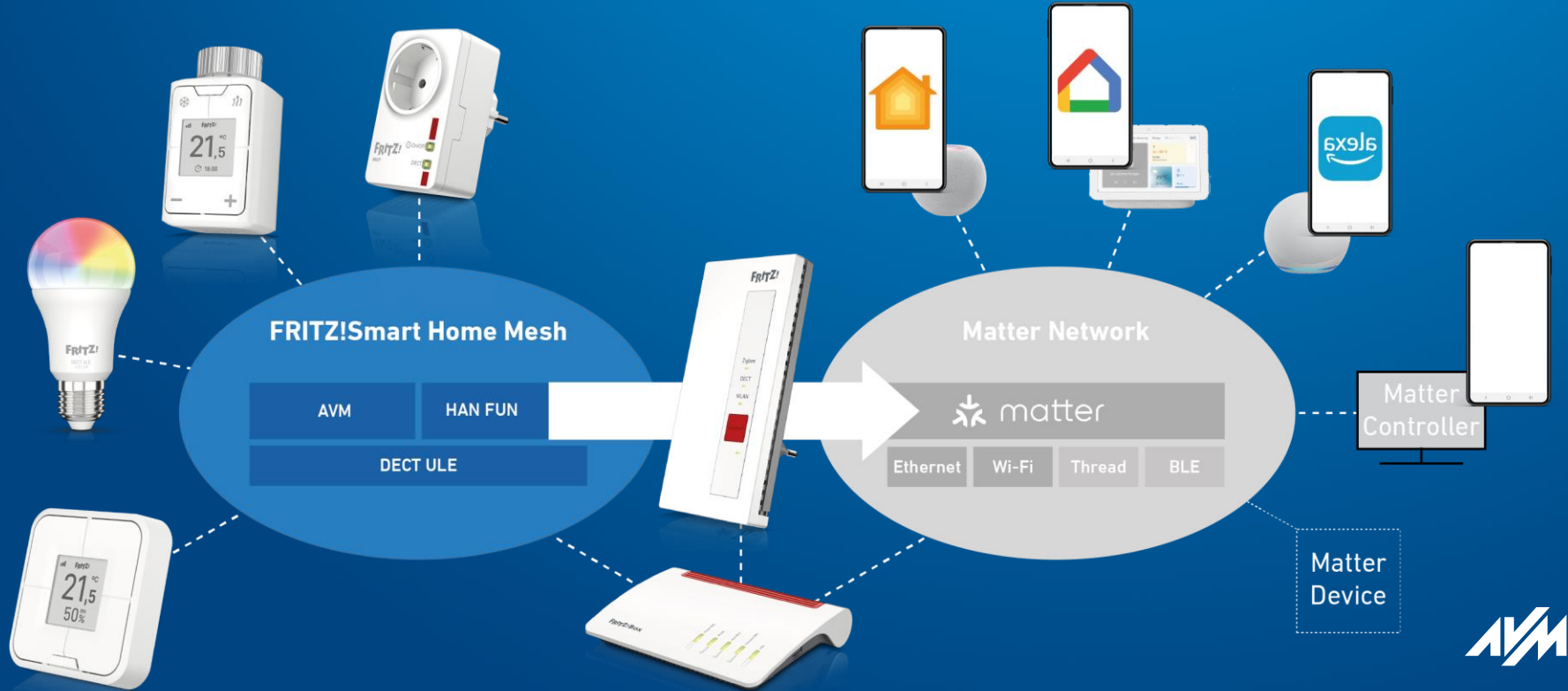
Matter and USP (TR-369)

- A standard for the configuration of Matter devices

- Defines a set of APIs that developers can use to configure Matter devices

- Working progress between BBF and CSA

  - Modelling Matter lightening endpoints and capabilities into the SP data model

  - Matter controller object (that is normally in the home) versus a proxied controller approach.

  - Recognizing a matter device just like USP recognizes other managed smart home devices.

Home network with FRITZ!

Telephony

Apps

MyFRITZ!

Home network center

Smart Home

Wireless

Powerline

More info:

- https://csa-iot.org/wp-content/uploads/2022/11/22-27349-001_Matter-1.0-Core-Specification.pdf

- https://developers.home.google.com/matter/primer

- https://www.broadband-forum.org/testing-and-certification-programs/usp-tr-369-training-sessions

- https://avm.de/service/schnittstellen/

AVM GmbH for ICT

E.vanuden@avm.de