



The distributed OpenHarmony Compatible
operating system that connects consumer
devices big and small

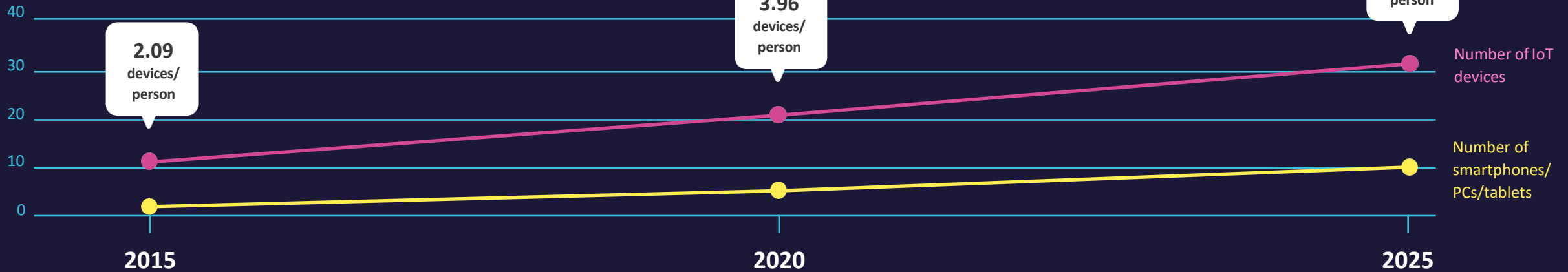
IoT Week Dublin 2022

Adrian O'Sullivan and Eilís Ní Fhlannagáin Huawei



▶ THE DEVICE FRAGMENTATION PHENOMENON IN NUMBERS

Global IoT devices statistics
and forecasts
(100 million units)



Number of apps

3.9 million+



Smartphone OS

Different Devices

20,000+



Watch OS

10,000+



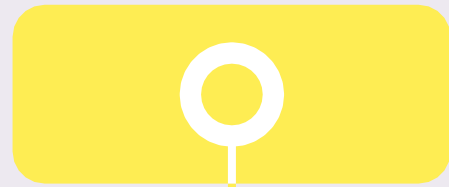
TV OS

100+



Head unit OS

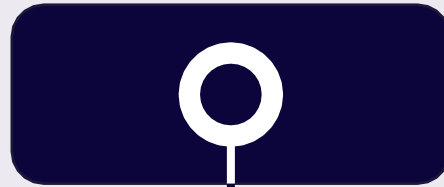
► WHY THIS IS HAPPENING?



Fragmented and isolated consumer devices market



Technology silos



Small developers ecosystem

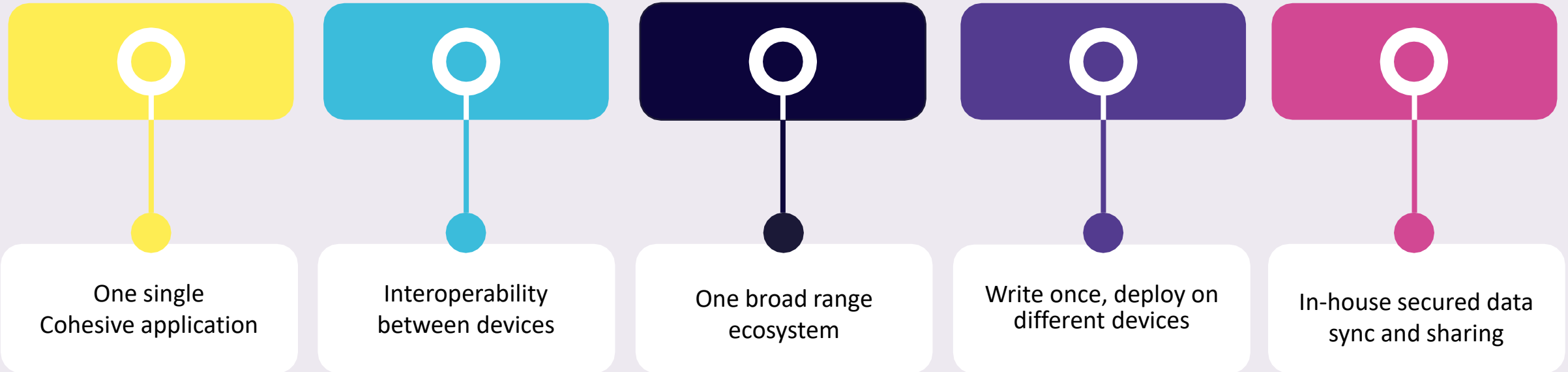


Lack in content creation portability,
Stable SDK
and non unified tools

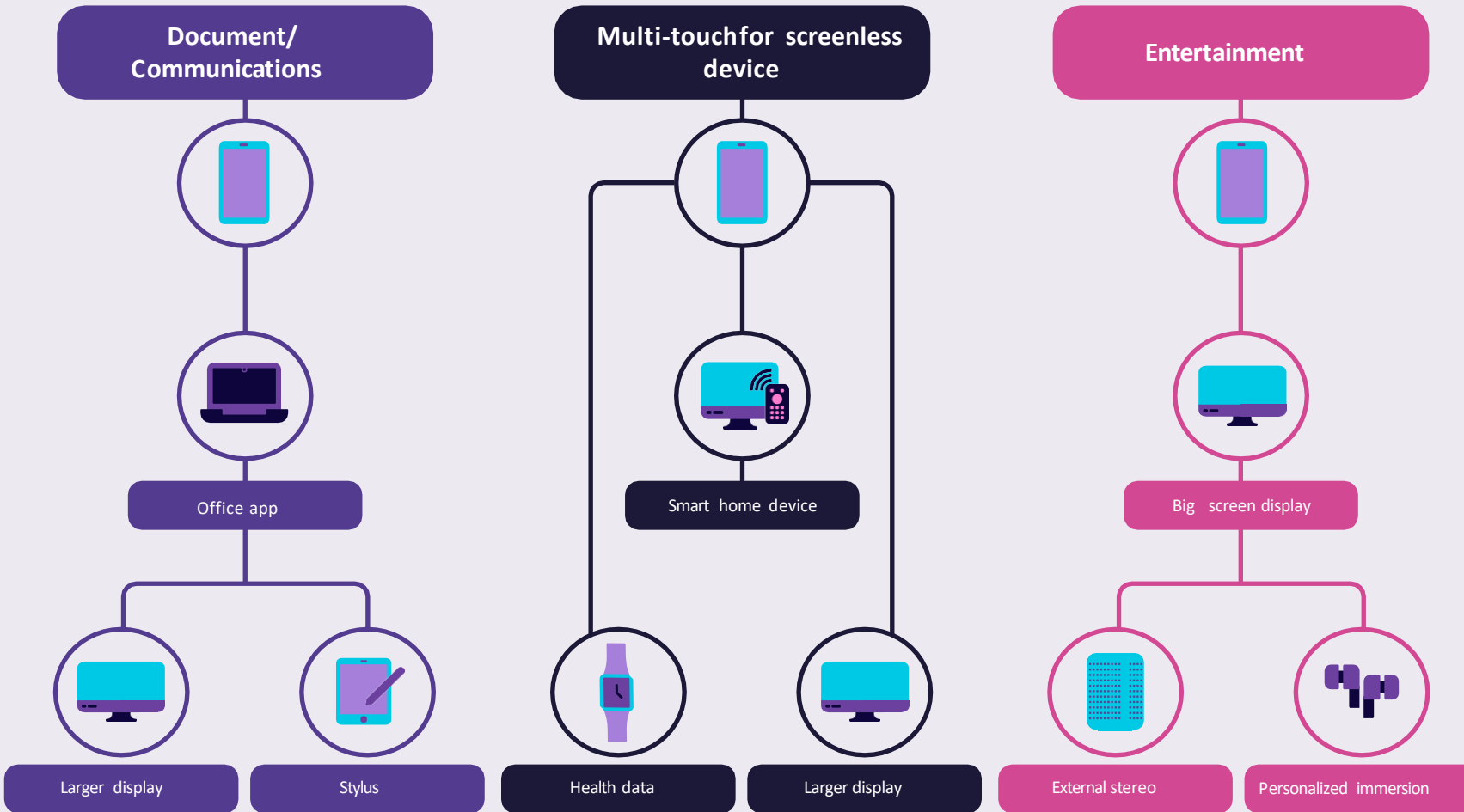


Communication between devices is enabled by discrete apps that are connected to the Cloud to share and sync data, with lack in performances, speed along with security and privacy issues

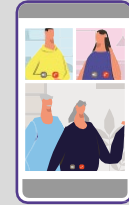
▶ IoT NEEDS COMMON STANDARDS TO LIVE UP TO ITS PROMISE OF EMPOWERING CONSUMERS' DAILY LIFE



▶ COLLABORATIVE HARDWARE, FORMING A SINGLE COHESIVE DEVICE

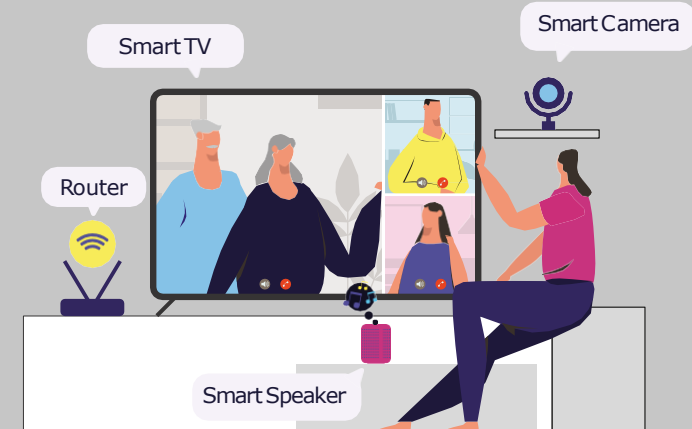


Experience restricted on a single device

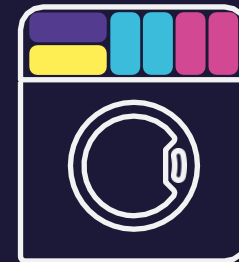
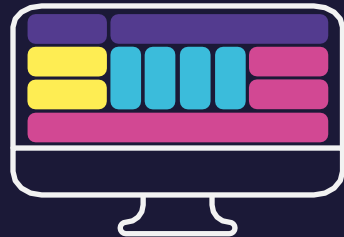
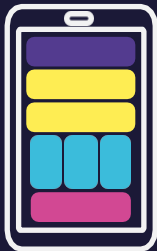


Experience with multiple cohesive devices

- 1 Auto detect app context and device requirement
When reciving the video call
- 2 Display to TV/Audio to speaker/Switch to smart camera
- 3 User smartphone to adjust the camera angle and zoom



▶ DISTRIBUTED OPEN OS FOR DEVICES BIG OR SMALL



GB

MB
—
512

KB
—
128



WHY VENDOR NEUTRAL OPEN SOURCE CAN HELP REDUCE THE DEVICE FRAGMENTATION PHENOMENON

UBIQUITOUS

COLLABORATIVE

OPEN

Open source technology baseline, is the only way to achieve real co-operability, interoperability and communication between different devices because they are natively talking the same language.



THE INFLUENCE ON REQUIREMENTS, ROADMAP AND FEATURES IS THE KEY!

**ECLIPSE FOUNDATION AND
OPENATOM FOUNDATION FORGE A
STRATEGIC INITIATIVE FOCUSED ON
OPENHARMONY OS.**



TO HAVE TWO VENDOR NEUTRAL OPEN SOURCE
FOUNDATIONS COME TOGETHER TO COLLABORATE JOINTLY IN
THE DEVELOPMENT AND ECOSYSTEM- BUILDING OF AN OPEN
SOURCE PROJECT IS UNPRECEDENTED.

PERHAPS IT IS FITTING THAT A DISTRIBUTED OPERATING SYSTEM
REQUIRES A DISTRIBUTED OPEN SOURCE DEVELOPMENT.

BUILDING GLOBAL, EUROPE, AND CHINA OPEN SOURCE COLLABORATION

ONE WORLDWIDE ECOSYSTEM FOR VENDOR NEUTRAL GLOBAL GOVERNANCE



Attract and build a strong
European and global ecosystem

Root Oniro globally granting
OpenHarmony compatibility to
ensure **Oniro conforms to European
& global developers/ users needs**



OpenHarmony™



Attract and build a **Chinese
ecosystem for OpenHarmony**

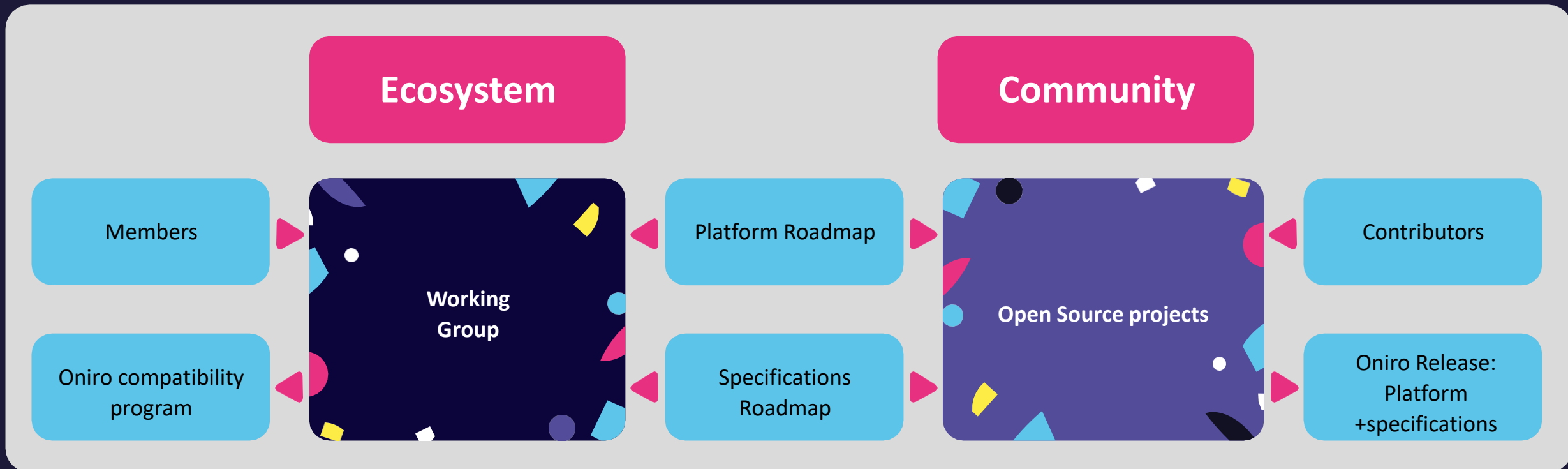
Run events and drive community
engagements locally in **Mandarin** at
times **convenient to China's
developers**

Access onboarding of **many new Chinese
companies** to the open source
community for the first time

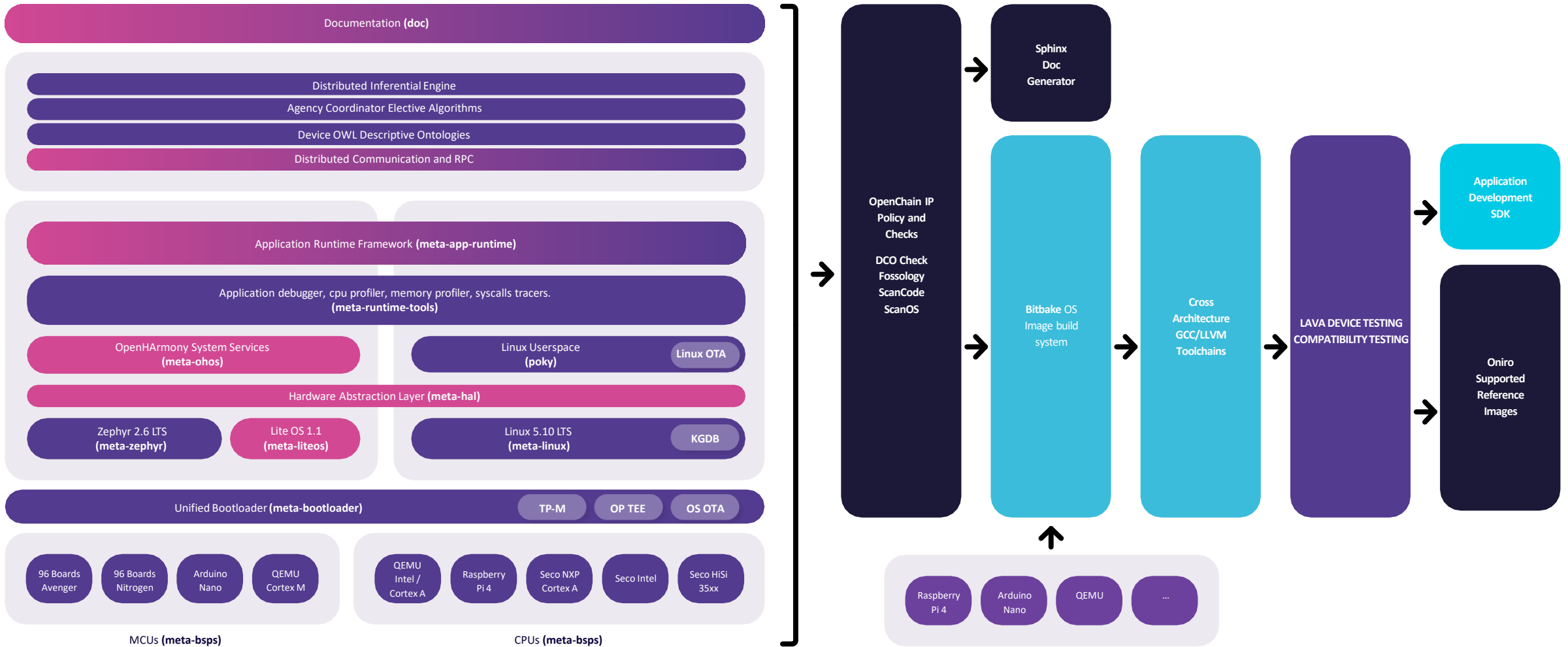
► Oniro value proposition



► What is Oniro

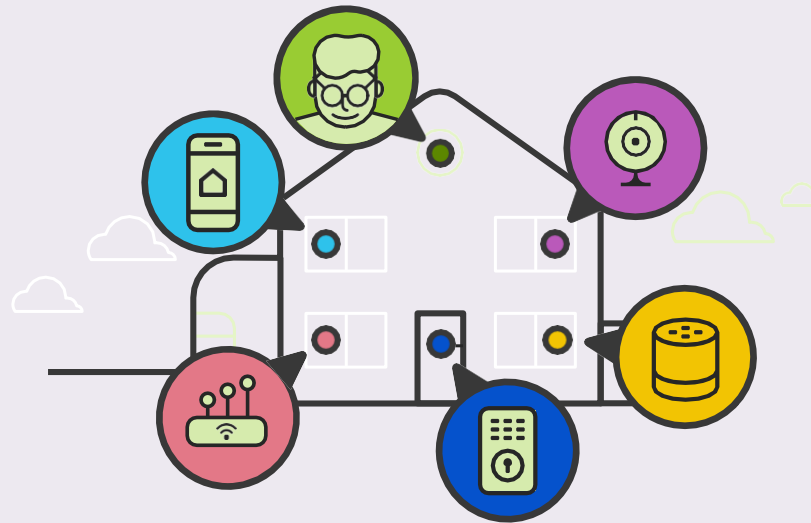


▶ END TO END TECHNICAL ARCHITECTURE – SOURCE CODE TO PRODUCTION READY IMAGE



The distributed operating system that connects consumer devices big and small

▶ ONIRO COLLABORATIVE AI AGENCY THAT DELIVERS A SMART HOME CENTERED AROUND YOU



► So lets look at an example of a day with Oniro in your life



Oniro Project integrates its various components into a representative use-case called a *Blueprint*.

A blueprint shows off the OS capabilities and best practices in building software-based products.

To this end, **blueprints** are a way to distill real-world products into a **minimum viable product** to demonstrate how partners and users may adopt Oniro Project securely in their own products.

What is a Blueprint?

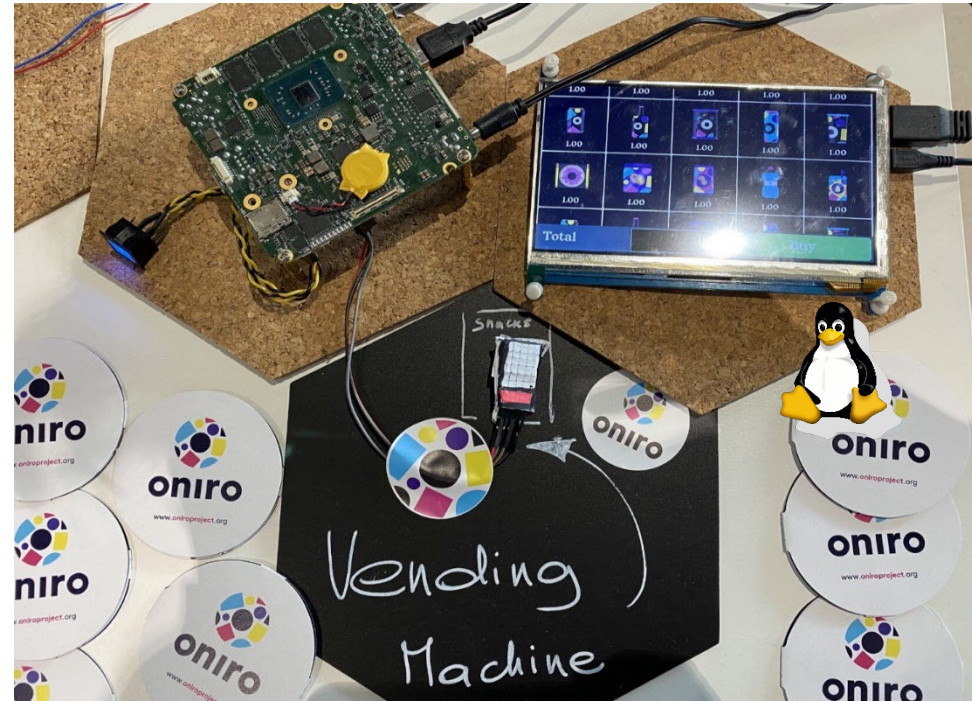
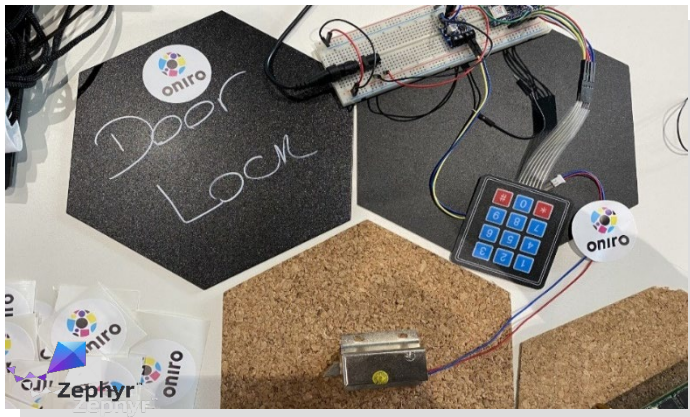
1. It shows off a key feature or two of the product it is trying to emulate
2. It focuses on reproducing a representative user interaction for a use case
3. It is implemented on the closest appropriate reference HW platform from Oniro Project

► Current Oniro blueprints



CHECK THE DOCUMENTATION :

<https://docs.oniroproject.org/projects/blueprints/en/latest/doorlock.html>



The Vending Machine blueprint provides full support for two complete setups. One based on Raspberry Pi 4B, an ARMv8 target, and one based on SECO B68, an X86 board

<https://www.youtube.com/watch?v=HQ9hD63ypvI&list=PLy7t4z5SYNaQBDRReZmeHAknEchYmu0LLa&index=10>



CHECK THE DOCUMENTATION :

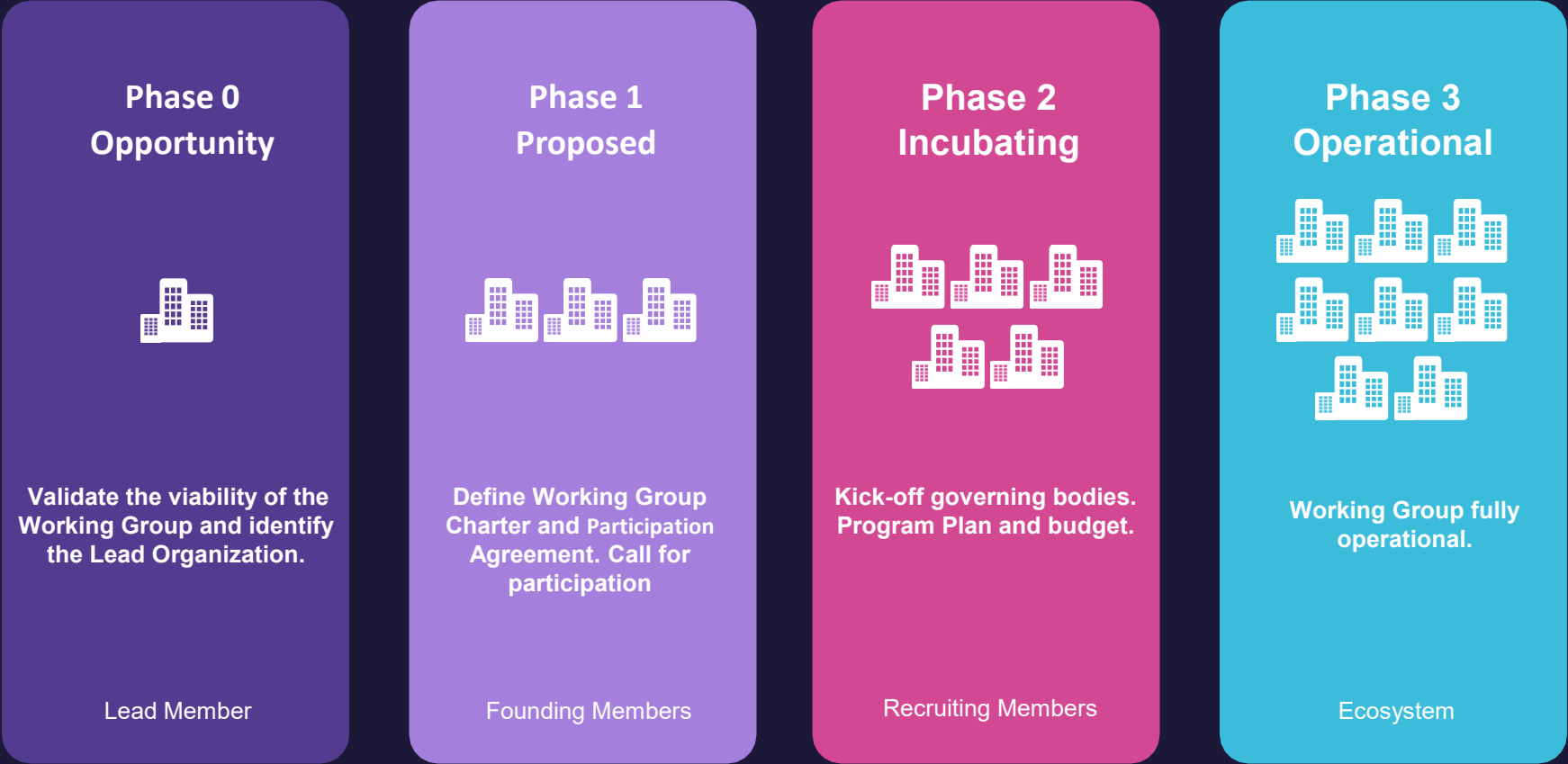
<https://docs.oniroproject.org/projects/blueprints/en/latest/transparent-gateway.html>

▶ LET'S DIVE DEEPER INTO ONIRO LATEST BLUEPRINT

INTRODUCING THE **MULTI-BOARD, WEARABLE DJ STATION**
TO EMPOWER DJS MORE FREEDOM AND CREATIVITY TO
EXPRESS THEIR MUSIC. WE

DISCUSS THE **IMPLEMENTATION OF THE BROADCAST STATION,**
THE WEARABLE COMPONENT, THE MIDI TRANSPORT
MECHANISM AND THE CHALLENGES WE ENCOUNTERED DURING
THE CREATION JOURNEY

▶ Oniro Working Group Lifecycle Progression



October 26th 2021

January 27th 2022

May 25th 2022



► Our Existing & Growing Ecosystem



JOIN ONIRO... BUT WHY?

Begin to put an End to the Fragmented Device Phenomenon

Oniro offers the vendor neutral, open governance and open source required

Solid technical team already in place

Oniro is done by the industry, for the industry and the consumers

Oniro Compatibility Program: leveraging Eclipse Foundation experience.

Aligned and shared specifications with OpenHarmony (OpenAtom Foundation)

OR..... PUT UP WITH THE HEADACHES OF DEVICES BEING UNNECESSARILY CONSTRAINED

▶ WHAT'S IN IT FOR YOU?



CONSUMERS

If you are an end user, Oniro integrates your various smart devices to implement fast connection, capability collaboration, and resource sharing between them. This way, your services can be seamlessly transferred to a suitable device that delivers smooth all-scenario experience.



DEVICE MAKERS

OEMs, SILICON VENDORS, CHIPSET MANUFACTURERS

If you are a device developer, Oniro uses a component-based software design to tailor itself to your particular device forms based on their respective resource capabilities and service characteristics.



CONTENT CREATORS

If you are an application developer, with Oniro, you will have the choice to focus on upper-layer service logic and develop applications in a much easier and more efficient way.

▶ HOW TO GET STARTED



[Download](#)



[Use](#)



[Read the documentation](#)



[Contribute into the community](#)

Join our IRC Libera Chat #oniroproject <https://web.libera.chat/#oniroproject>

VISIT OUR WWW.ONIROPROJECT.ORG WEBPORTAL

Thank you!

It's now time for Q&A

Communication channels

Oniro Working Group mailing list: oniro-wg@eclipse.org

Oniro Projects (technical) mailing list: oniro-dev@eclipse.org

Chat channel: [#oniroproject](#) at libera.chat

Twitter: [@oniro_project](#) #Oniro