



ThreadX Initiative

October 2023

Agenda

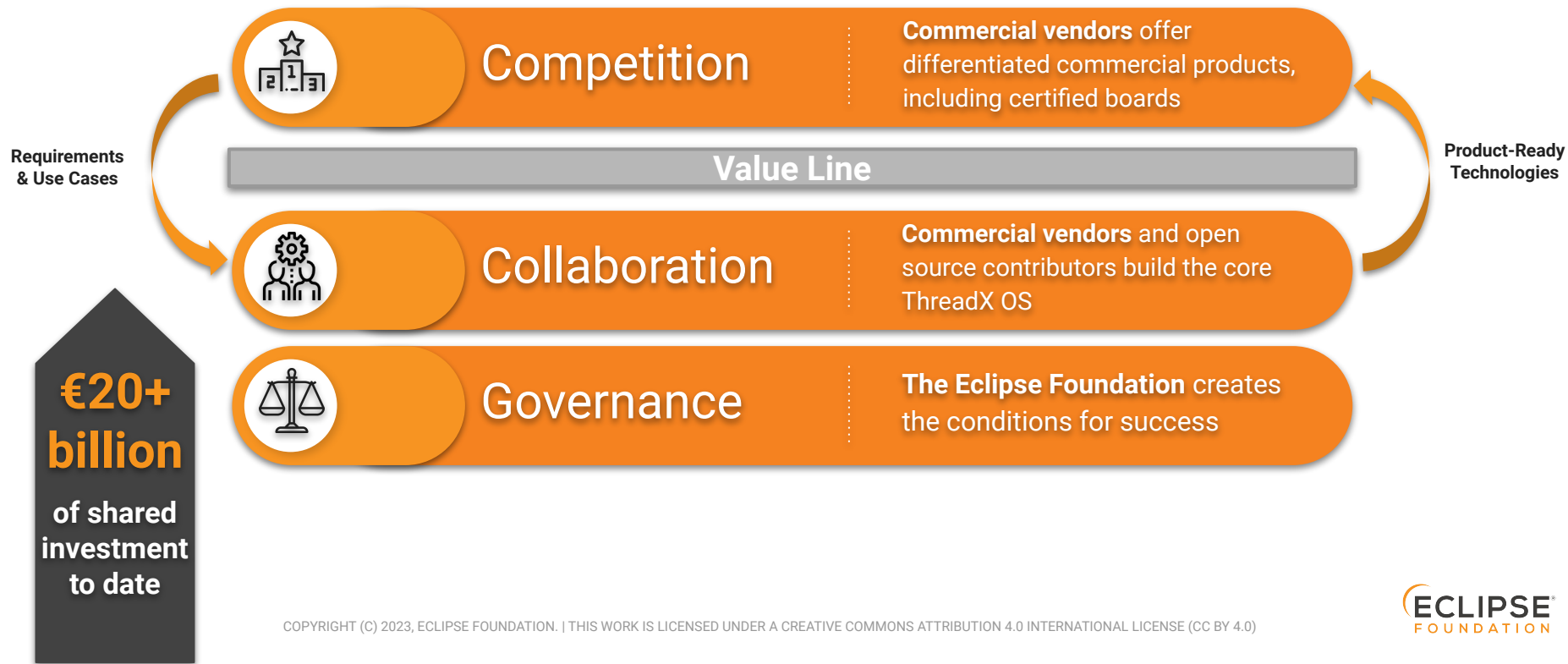
- ➔ **What we do**
- ➔ **Current Situation**
- ➔ **Benefits / Opportunity**
- ➔ **Key Challenges**
- ➔ **Next Steps**

Established Governance Framework

Governance Model

- Based on mature, well-proven policies and processes
 - Commercially friendly
 - Adaptable to market/community initiatives
 - Cost Effective
 - Vendor Neutral

Our Processes Create a Level Playing Field



Situation Analysis

- Azure RTOS (ThreadX) is a significant player in the RTOS marketplace
 - 12 billion devices
 - IEC 61508, IEC 62304, ISO 26262, EN 50128 conformance certified by SGS-TÜV Saar
- Originally developed by Express Logic, acquired by Microsoft in 2019
- 20+ years of development
- Distributed under a royalty-free, shared source license
 - Source code available on GitHub
- Currently 4 major silicon vendor partners: Microchip, NXP, Renesas, and ST Micro
- Microsoft has stated to Eclipse its intention to exit this business by April 2024 while ensuring a sustainable future for the technology
 - Microsoft will contribute ThreadX to Eclipse Foundation as a permissively licensed open source project and to support establishing a viable, sustainable open source community to support the project

**A vendor-neutral Open
Source RTOS certified for
safety-critical applications
and published under a
permissive license...**



**... is an industry
game-changer**

Our Proposed Game Plan

- 1** Consolidate the project
- 2** Preserve certifications
- 3** Build the community
- 4** Promote the brand
- 5** Grow the ecosystem

Consolidate the Project

Transfer the code,
trademarks, and
other assets under
vendor-neutral
Eclipse control

Recruit and enable
developers to
sustain and
enhance ThreadX

Transition project
governance to open
source and
establish clear
processes, roles,
and responsibilities

Unique Core Competencies

Rich culture

of managing complex
release cycles



Proven

development and
specification processes
enabling us to propose
ISO/IEC international
standards

Track Record

of nurturing thriving
developer communities with
audiences in the millions



Preserve the Certifications

Maintain the current
ThreadX safety
certifications from
TÜV and UL

Develop
enhancements
to the Eclipse
Development
Process for
functional safety
requirements

Contract with
auditing agencies
to plan for
certification of
future releases

Grow the Community

Nurture new
committers and
code contributions

Drive adoption
through strong
developer relations
and marketing

Leverage
cross-pollination
from Eclipse IoT
and Eclipse SDV to
grow adoption

The Eclipse IoT Community Shows What We Can Do

Leader members



BOSCH
Invented for life



edgeworx



eurotech
UNLEASHING THE POWER OF THE EDGE



Red Hat

zetta
scale

Innovator members



HIVEMQ



kynetics
enjoy the art of coding



Apex.AI



THE
AUTWARE
FOUNDATION

Calypso
Networks Association



CANONICAL



cedalo



start north

SIEMENS

SOTEC



Promote the Brand

Establish relevant
compatibility
programs that will
provide value to
current and future
adopters

Associate the
ThreadX brand to
vendor-neutral open
source governance

Develop and
communicate clear
market positioning

Industry-leading Branding Programs



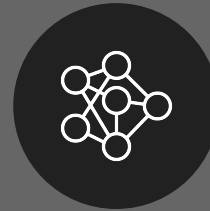
**Customer
Confidence**



Collaboration



**Marketing
Initiatives**



**Brand
Development**



**Community
Support**

Grow the Ecosystem

Preserve the
involvement of
existing partners
and adopters

Educate key
stakeholders about
working in an open,
transparent and
meritocratic
manner

Obtain the support of
all ecosystem
participants: silicon/SBC
manufacturers,
embedded system
integrators and tool
vendors

We Have Done This Before

The Java EE ecosystem was valued at billions of dollars and involved millions of developers. Jakarta EE preserved all that and has made the technology more relevant than ever.



Proposed Timeline

Target	What	Responsibility
October 2023	Proposal to establish Eclipse ThreadX	Microsoft + Eclipse Foundation
October 2023	Eclipse ThreadX project created and announced	Microsoft + Eclipse Foundation
October 2023	Establish the Interest Group	Microsoft + Interested Parties
December 2023	Finalize Working Group Plan	Microsoft + Interested Parties
December 2023	Complete first release of Eclipse ThreadX project	Microsoft + Eclipse Foundation
January 2024	Launch Working Group with Founding Members	Interested Parties

Working Group Responsibilities

- Hold and maintain the trademarks
- Find committers to form a development team to sustain and enhance the technology
- Maintain the safety certifications
 - contract with auditing agencies
 - modify and document EF policies, processes, and infrastructure requirements
- Drive adoption through marketing and developer advocacy
- Establish compatibility programs to provide value to adopters
- Invest in ecosystem development

Based on prior experience, this is going to take a budget of €1.5 to 2 million

Next Steps

- Eclipse and Microsoft are together proposing to **establish an Eclipse ThreadX interest group and project proposal**
 - Comprised of key semiconductor participants and Microsoft
 - Together, will over a 60 day period forge a more formal plan of action

To participate, your organization must be a member of Eclipse Foundation but no other financial commitment is required at this stage
- Goal is, at the end of 60 days, commit to the creation of a **Eclipse ThreadX working group**
 - Formally establish objectives, strategy, priorities, target budget, etc.
 - Agree to financial commitment
 - could be up to €400K per year, effective January 1, for minimum of 3 years
 - Can be reduced by expanding the membership
 - Technical skills to help drive project and safety certifications
 - NOTE: Overhead associated with governance is generally minimal once stood up

Resources

- [Eclipse Industry Collaborations](#)
- [Working Group Process](#)
- [Interest Group Process](#)
- [Eclipse Development Process](#)
- Contact us: collaborations@eclipse-foundation.org

Questions/Open Floor

Closing Comments



Thank you!