STM32Cube and Azure RTOS Overview

Mar 2021

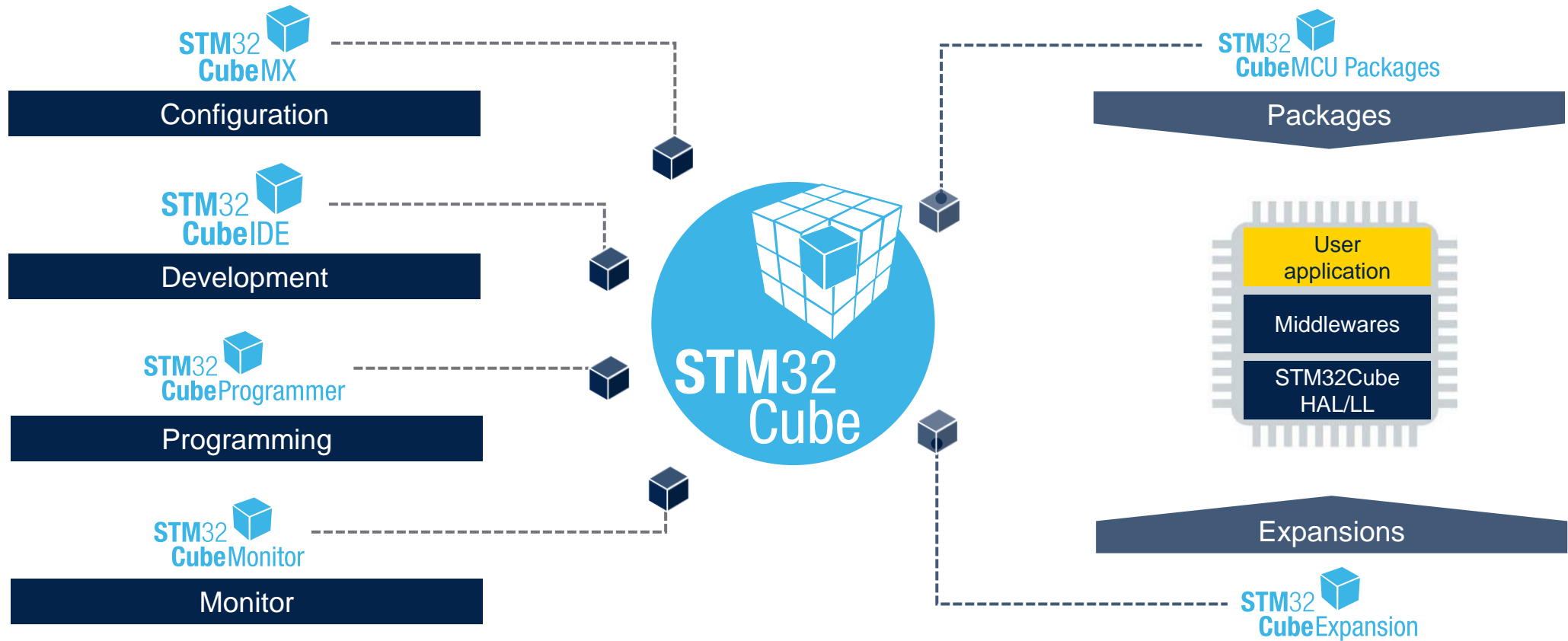# Today - STM32Cube Software Suite Offer

Software Tools

Embedded Software

STM32 CubeMX

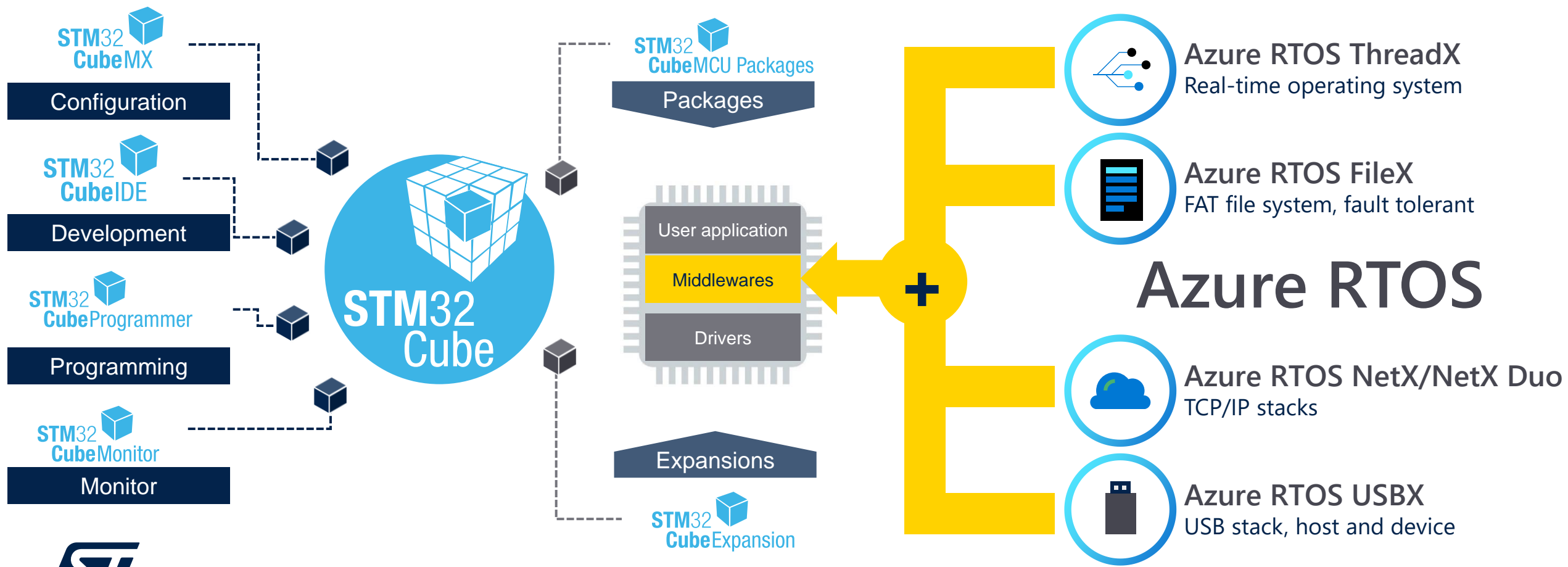Configuration

STM32 CubeIDE

Development

STM32 CubeProgrammer

Programming

STM32 CubeMonitor

Monitor

STM32 CubeMCU Packages

Packages

User application

Middlewares

STM32Cube HAL/LL

Expansions

STM32 CubeExpansion

STM32 Cube

ST proposal for STM32, since 2014

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Ongoing - STM32Cube Software Suite

| Embedded Software | **Complemented with Microsoft Azure RTOS (2021)**

STM32 CubeMX
Configuration

STM32 CubeIDE
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Monitor

STM32 Cube

STM32 CubeMCU Packages
Packages

User application
Middlewares
Drivers

Expansions

STM32 CubeExpansion

+

Azure RTOS ThreadX
Real-time operating system

Azure RTOS FileX
FAT file system, fault tolerant

Azure RTOS

Azure RTOS NetX/NetX Duo
TCP/IP stacks

Azure RTOS USBX
USB stack, host and device

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Production License for any STM32

Ongoing - STM32Cube Software Suite

**Microsoft Azure RTOS bringing additional Key benefits
to STM32Cube software Suite, from 2021**

Software
Tools

STM32
Cube

Embedded
Software

+ Azure RTOS

Faster & Easier Development	Fast performance
Business-friendly terms **+**	Complete consistent solution
Better Quality	Industry certifications

Microsoft Azure RTOS: Key Features

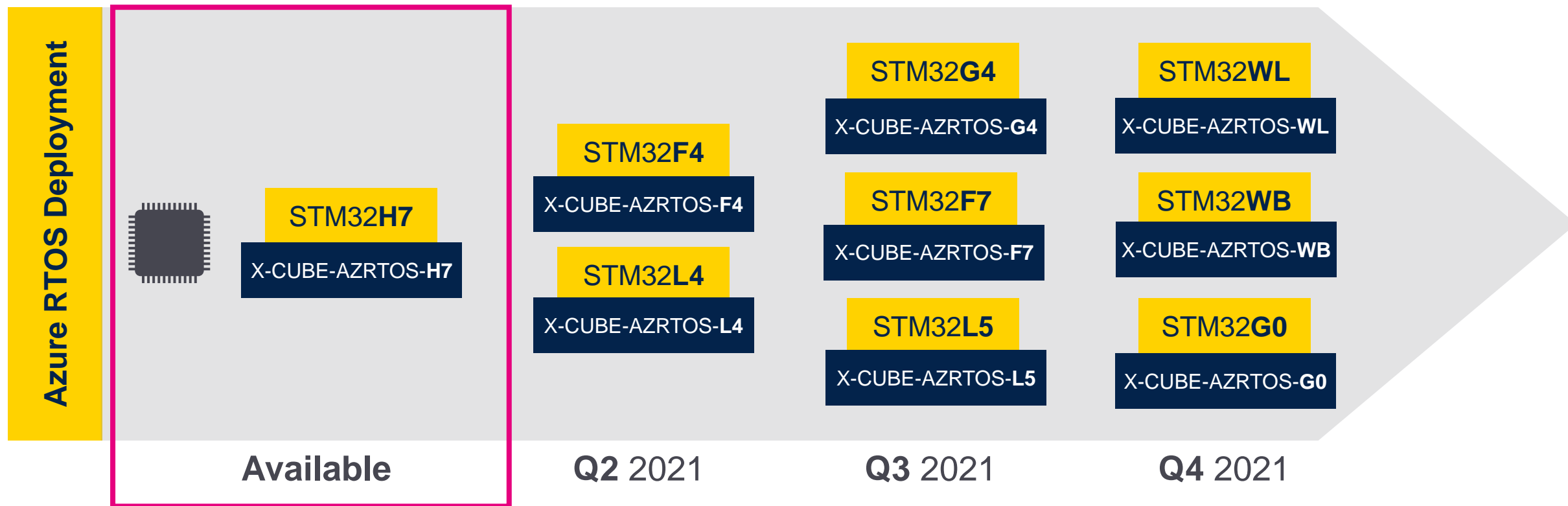## Professional grade, highly reliable and market proven MW suite

- **Industrial grade** networking stack: optimized for performance coming with **many IoT protocols**
- Advanced FS/FTL: **fully featured** to support **NAND/NOR Flash** memories
- USB **Host** and **Device** stacks coming with **many classes**
- **Safety pre-certifications (from MSFT)**: IEC 61508 SIL4, IEC 62304 Class C and ISO 26262 ASIL D
- **Security pre-certifications (from MSFT)**: EAL4+ for TLS/DTLS, FIPS 140-2 for SW crypto lib
- STM32 **granted production license:** https://github.com/azure-rtos/guix/blob/master/LICENSED-HARDWARE.txt

Azure RTOS Deployment within STM32 and STM32Cube portfolio

STM32Cube Expansions for existing STM32 series, enhanced for ST Toolset

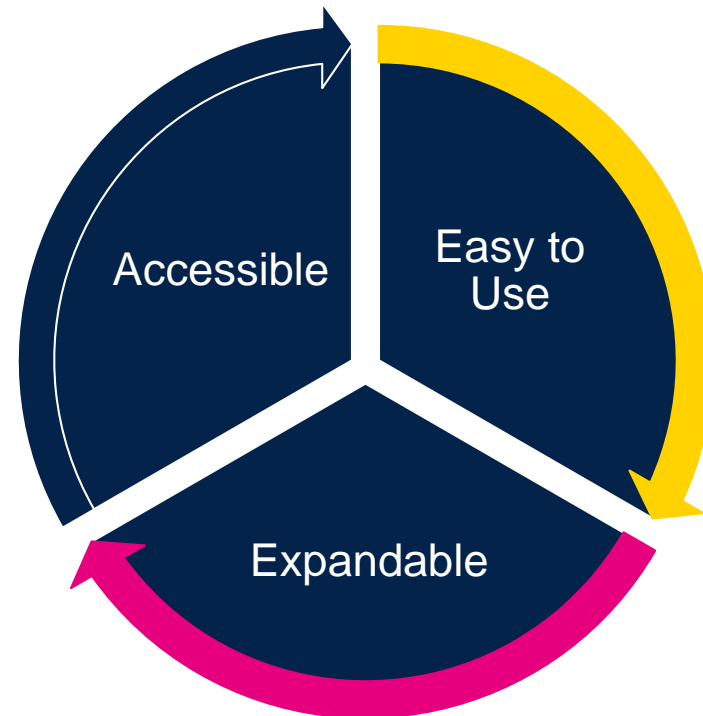**Azure RTOS Deployment**

STM32H7
X-CUBE-AZRTOS-**H7**

Available

STM32F4
X-CUBE-AZRTOS-**F4**

STM32L4
X-CUBE-AZRTOS-**L4**

Q2 2021

STM32G4
X-CUBE-AZRTOS-**G4**

STM32F7
X-CUBE-AZRTOS-**F7**

STM32L5
X-CUBE-AZRTOS-**L5**

Q3 2021

STM32WL
X-CUBE-AZRTOS-**WL**

STM32WB
X-CUBE-AZRTOS-**WB**

STM32G0
X-CUBE-AZRTOS-**G0**

Q4 2021

www.st.com/x-cube

Azure RTOS and STM32Cube: User Benefits

Getting the most out of Azure RTOS and STM32 MCUs is now easier than ever with STM32Cube

Source code available
Free of charge
User-friendly license terms

Accessible

Easy to Use

Expandable

Drastically reduced learning curve:
- Azure RTOS made compatible with ST Toolset
- Many applicative examples provided
Developers can focus on their application and differentiators

Expanding the ecosystem of existing and upcoming STM32 series by leveraging Azure RTOS middleware

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Thank you

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