STM32Cube High Quality Process
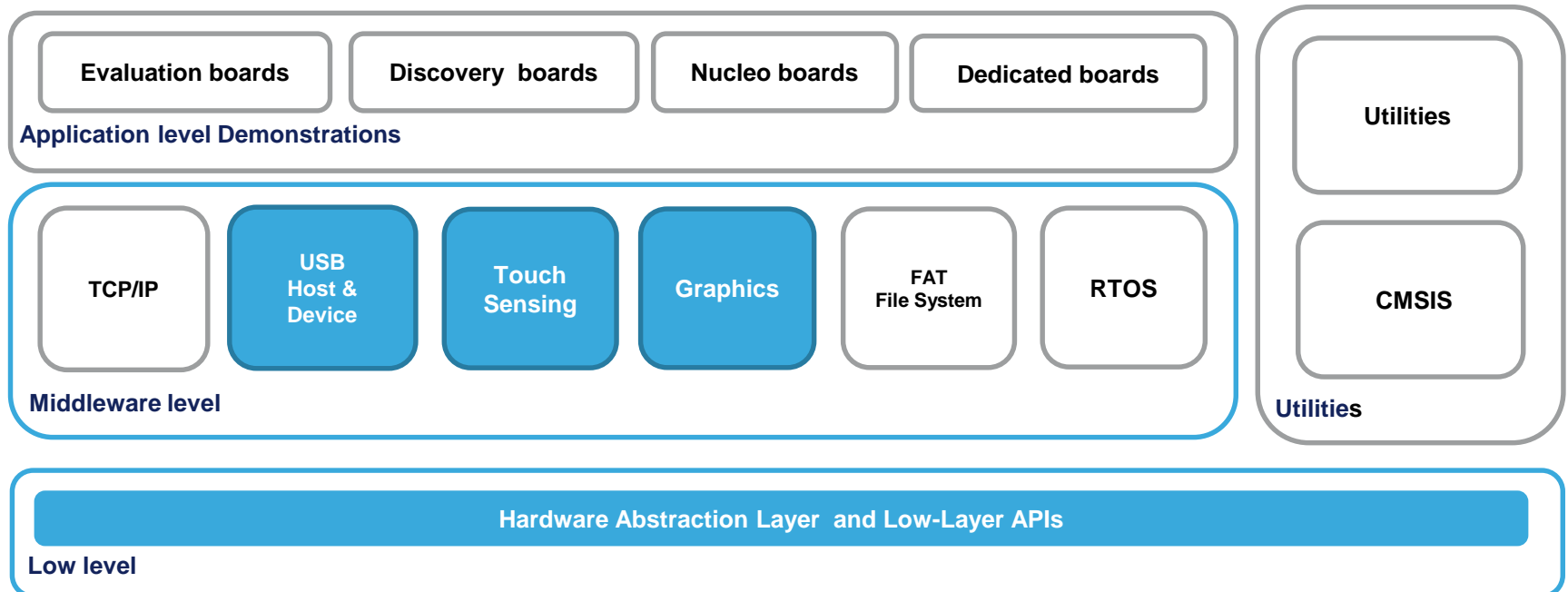
Qualified STM32Cube Embedded Software libraries

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STM32Cube High Quality Process

Scope

- Qualification aspects discussed in the next slides apply to HALs, Low-Layer APIs and ST Middleware only, as highlighted in **blue** below
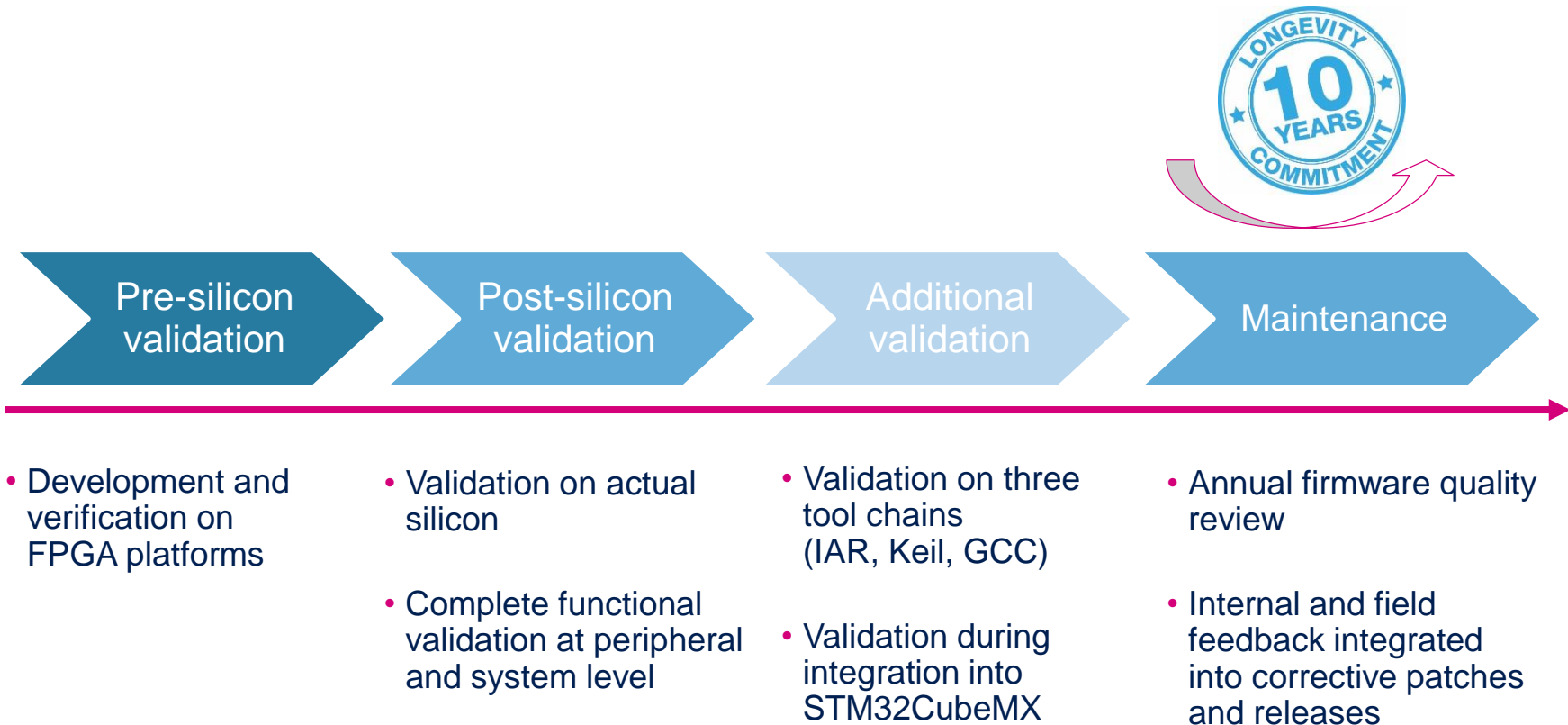
Evaluation boards	Discovery boards	Nucleo boards	Dedicated boards

Application level Demonstrations

TCP/IP	USB Host & Device	Touch Sensing	Graphics	FAT File System	RTOS

Middleware level

Utilities

CMSIS

Utilities

Hardware Abstraction Layer and Low-Layer APIs

Low level

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STM32Cube High Quality Process

Process

- STM32Cube embedded software developed by experienced ST engineers with a deep functional understanding of STM32 families

Pre-silicon validation → **Post-silicon validation** → **Additional validation** → **Maintenance**

- Development and verification on FPGA platforms

- Validation on actual silicon

- Complete functional validation at peripheral and system level

- Validation on three tool chains (IAR, Keil, GCC)

- Validation during integration into STM32CubeMX

- Annual firmware quality review

- Internal and field feedback integrated into corrective patches and releases

STM32Cube High Quality Process

Deliverables

- Validation reports available and can be shared on demand

- STM32Cube HALs, Low-Layer APIs and ST Middleware C code compliant with MISRA-C
  - Compliancy with a few exceptions listed and explained

- HALs, Low-Layer APIs and Middleware embedded software development process modeled after:
  - CMM (Capability Maturity Model)
  - ISO/TS 16949 (development teams successfully passed the external audit in June 2016)

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