

## Introduction

This release note is updated periodically to keep abreast of STM32CubeMX evolution, problems and limitations. Check STMicroelectronics support website at [www.st.com/stm32cubemx](http://www.st.com/stm32cubemx) for the latest version. Refer to [Table 1](#) for the latest release summary.

**Table 1. STM32CubeMX 6.2.1 release summary**

| Type          | Summary                              |
|---------------|--------------------------------------|
| Minor release | Support for STM32MP1 Series updates. |

## Customer support

For more information or help concerning STM32CubeMX, contact the STMicroelectronics nearest sales office or use the ST community at [community.st.com](http://community.st.com). For a complete list of STMicroelectronics offices and distributors, refer to the [www.st.com](http://www.st.com) webpage.

## Software updates

Software updates and all the latest documentation can be downloaded from the STMicroelectronics support [www.st.com/stm32cubemx](http://www.st.com/stm32cubemx) webpage.



# Contents

|          |                                                                |           |
|----------|----------------------------------------------------------------|-----------|
| <b>1</b> | <b>General information</b>                                     | <b>9</b>  |
| 1.1      | Overview                                                       | 9         |
| 1.2      | Host PC system requirements                                    | 9         |
| 1.3      | Cross-selector data disclaimer                                 | 10        |
| 1.4      | License                                                        | 10        |
| <b>2</b> | <b>What is new in STM32CubeMX V6.2.1?</b>                      | <b>14</b> |
| 2.1      | Known limitations                                              | 14        |
| 2.2      | Main fixed issues                                              | 18        |
| 2.3      | Firmware package versions                                      | 19        |
| <b>3</b> | <b>Release information</b>                                     | <b>20</b> |
| 3.1      | Microcontrollers and microprocessors supported by this release | 20        |
| 3.2      | STM32CubeMX V6.2.0 release information                         | 28        |
| 3.2.1    | Main fixed issues                                              | 29        |
| 3.2.2    | Firmware package versions                                      | 29        |
| 3.3      | STM32CubeMX V6.1.1 release information                         | 30        |
| 3.3.1    | Main fixed issues                                              | 30        |
| 3.3.2    | Firmware package versions                                      | 30        |
| 3.4      | STM32CubeMX V6.1.0 release information                         | 31        |
| 3.4.1    | Main fixed issues                                              | 32        |
| 3.4.2    | Firmware package versions                                      | 32        |
| 3.5      | STM32CubeMX V6.0.1 release information                         | 33        |
| 3.5.1    | Fixed issues                                                   | 33        |
| 3.5.2    | Firmware package versions                                      | 33        |
| 3.6      | STM32CubeMX V6.0.0 release information                         | 34        |
| 3.6.1    | Fixed issues                                                   | 35        |
| 3.6.2    | Firmware package versions                                      | 35        |
| 3.7      | STM32CubeMX V5.6.1 release information                         | 36        |
| 3.7.1    | Fixed issues                                                   | 36        |
| 3.7.2    | Firmware package versions                                      | 36        |
| 3.8      | STM32CubeMX V5.6.0 release information                         | 37        |
| 3.8.1    | Fixed issues                                                   | 38        |

|        |                                               |    |
|--------|-----------------------------------------------|----|
| 3.8.2  | Firmware package versions .....               | 38 |
| 3.9    | STM32CubeMX V5.5.0 release information .....  | 39 |
| 3.9.1  | Fixed issues .....                            | 40 |
| 3.9.2  | Firmware package versions .....               | 40 |
| 3.10   | STM32CubeMX V5.4.0 release information .....  | 41 |
| 3.10.1 | Fixed issues .....                            | 42 |
| 3.10.2 | Firmware package versions .....               | 43 |
| 3.11   | STM32CubeMX V5.3.0 release information .....  | 44 |
| 3.11.1 | Fixed issues .....                            | 44 |
| 3.11.2 | Firmware package versions .....               | 45 |
| 3.12   | STM32CubeMX V5.2.1 release information .....  | 45 |
| 3.12.1 | Fixed issues .....                            | 45 |
| 3.12.2 | Firmware package versions .....               | 46 |
| 3.13   | STM32CubeMX V5.2.0 release information .....  | 47 |
| 3.13.1 | Fixed issues .....                            | 47 |
| 3.13.2 | Firmware package versions .....               | 48 |
| 3.14   | STM32CubeMX V5.1.0 release information .....  | 49 |
| 3.14.1 | Fixed issues .....                            | 49 |
| 3.14.2 | Firmware package versions .....               | 50 |
| 3.15   | STM32CubeMX V5.0.1 release information .....  | 50 |
| 3.15.1 | Fixed issues .....                            | 50 |
| 3.15.2 | Firmware package versions .....               | 50 |
| 3.16   | STM32CubeMX V5.0.0 release information .....  | 51 |
| 3.16.1 | Fixed issues .....                            | 51 |
| 3.16.2 | Firmware package versions .....               | 52 |
| 3.17   | STM32CubeMX V4.27.0 release information ..... | 52 |
| 3.17.1 | Fixed issues .....                            | 53 |
| 3.17.2 | Firmware package versions .....               | 53 |
| 3.18   | STM32CubeMX V4.26.1 release information ..... | 53 |
| 3.18.1 | Fixed issues .....                            | 54 |
| 3.18.2 | Firmware package versions .....               | 54 |
| 3.19   | STM32CubeMX V4.26.0 release information ..... | 54 |
| 3.19.1 | Fixed issues .....                            | 55 |
| 3.19.2 | Firmware package versions .....               | 55 |
| 3.20   | STM32CubeMX V4.25.1 release information ..... | 55 |
| 3.20.1 | Fixed issue .....                             | 56 |

|        |                                               |    |
|--------|-----------------------------------------------|----|
| 3.20.2 | Firmware package versions .....               | 56 |
| 3.21   | STM32CubeMX V4.25.0 release information ..... | 56 |
| 3.21.1 | Fixed issues .....                            | 56 |
| 3.21.2 | Firmware package versions .....               | 57 |
| 3.22   | STM32CubeMX V4.24.0 release information ..... | 57 |
| 3.22.1 | Fixed issues .....                            | 57 |
| 3.22.2 | Firmware package versions .....               | 59 |
| 3.23   | STM32CubeMX V4.23.0 release information ..... | 59 |
| 3.23.1 | Fixed issues .....                            | 59 |
| 3.23.2 | Firmware package versions .....               | 60 |
| 3.24   | STM32CubeMX V4.22.1 release information ..... | 60 |
| 3.24.1 | Fixed issues .....                            | 60 |
| 3.24.2 | Firmware package versions .....               | 61 |
| 3.25   | STM32CubeMX V4.22.0 release information ..... | 61 |
| 3.25.1 | Fixed issues .....                            | 61 |
| 3.25.2 | Firmware package versions .....               | 62 |
| 3.26   | STM32CubeMX V4.21.0 release information ..... | 62 |
| 3.26.1 | Fixed issues .....                            | 62 |
| 3.26.2 | Firmware package versions .....               | 63 |
| 3.27   | STM32CubeMX V4.20.1 release information ..... | 63 |
| 3.27.1 | Fixed issue .....                             | 64 |
| 3.27.2 | Firmware package versions .....               | 64 |
| 3.28   | STM32CubeMX V4.20.0 release information ..... | 64 |
| 3.28.1 | Fixed issues .....                            | 64 |
| 3.28.2 | Firmware package versions .....               | 66 |
| 3.29   | STM32CubeMX V4.19.0 release information ..... | 66 |
| 3.29.1 | Fixed issues .....                            | 66 |
| 3.29.2 | Firmware package versions .....               | 67 |
| 3.30   | STM32CubeMX V4.18.0 release information ..... | 67 |
| 3.30.1 | Fixed issues .....                            | 68 |
| 3.30.2 | Firmware package versions .....               | 69 |
| 3.31   | STM32CubeMX V4.17.0 release information ..... | 69 |
| 3.31.1 | Fixed issues .....                            | 69 |
| 3.31.2 | Firmware package versions .....               | 70 |
| 3.32   | STM32CubeMX V4.16.1 release information ..... | 71 |
| 3.32.1 | Fixed issues .....                            | 71 |

|        |                                         |    |
|--------|-----------------------------------------|----|
| 3.32.2 | Firmware package versions               | 71 |
| 3.33   | STM32CubeMX V4.16.0 release information | 71 |
| 3.33.1 | Fixed issues                            | 71 |
| 3.33.2 | Firmware package versions               | 72 |
| 3.34   | STM32CubeMX V4.15.1 release information | 72 |
| 3.34.1 | Fixed issues                            | 72 |
| 3.34.2 | Firmware package versions               | 73 |
| 3.35   | STM32CubeMX V4.15.0 release information | 73 |
| 3.35.1 | Enhancements                            | 73 |
| 3.35.2 | Fixed issues                            | 73 |
| 3.35.3 | Firmware package versions               | 74 |
| 3.36   | STM32CubeMX V4.14.0 release information | 75 |
| 3.36.1 | Enhancements                            | 75 |
| 3.36.2 | Fixed issues                            | 75 |
| 3.37   | STM32CubeMX V4.13.1 release information | 77 |
| 3.37.1 | Fixed issues                            | 77 |
| 3.38   | STM32CubeMX V4.13.0 release information | 77 |
| 3.38.1 | Enhancements                            | 77 |
| 3.38.2 | Fixed issues                            | 77 |
| 3.39   | STM32CubeMX V4.12.0 release information | 78 |
| 3.39.1 | Enhancements                            | 78 |
| 3.39.2 | Fixed issues                            | 78 |
| 3.40   | STM32CubeMX V4.11.0 release information | 79 |
| 3.40.1 | Enhancements                            | 79 |
| 3.40.2 | Fixed issues                            | 79 |
| 3.41   | STM32CubeMX V4.10.0 release information | 80 |
| 3.41.1 | Enhancements                            | 80 |
| 3.41.2 | Fixed issues                            | 80 |
| 3.42   | STM32CubeMX V4.9.0 release information  | 81 |
| 3.42.1 | Enhancements                            | 81 |
| 3.42.2 | Known problems and limitations          | 81 |
| 3.42.3 | Fixed issues                            | 81 |
| 3.43   | STM32CubeMX V4.8.0 release information  | 81 |
| 3.43.1 | Enhancements                            | 81 |
| 3.43.2 | Fixed issues                            | 82 |
| 3.44   | STM32CubeMX V4.7.1 release information  | 82 |

|          |                                                |           |
|----------|------------------------------------------------|-----------|
| 3.44.1   | Enhancements                                   | 82        |
| 3.44.2   | Fixed issues                                   | 82        |
| 3.45     | STM32CubeMX V4.7.0 release information         | 83        |
| 3.45.1   | Enhancements                                   | 83        |
| 3.45.2   | Fixed issues                                   | 83        |
| 3.46     | STM32CubeMX V4.6.0 release information         | 84        |
| 3.46.1   | Enhancements                                   | 84        |
| 3.46.2   | Known problems and limitations                 | 84        |
| 3.46.3   | Fixed issues                                   | 84        |
| 3.47     | STM32CubeMX V4.5.0 release information         | 85        |
| 3.47.1   | Enhancements                                   | 85        |
| 3.47.2   | Known problems and limitations                 | 85        |
| 3.47.3   | Fixed issues                                   | 86        |
| 3.48     | STM32CubeMX V4.4.0 release information         | 86        |
| 3.48.1   | New features                                   | 86        |
| 3.48.2   | Enhancements                                   | 86        |
| 3.48.3   | Known problems and limitations                 | 86        |
| 3.49     | STM32CubeMX V4.3 and 4.3.1 release information | 87        |
| 3.49.1   | Fixed issues                                   | 87        |
| 3.49.2   | Enhancements                                   | 87        |
| 3.49.3   | Known problems and limitations                 | 87        |
| 3.50     | STM32CubeMX V4.2 release information           | 88        |
| 3.50.1   | New features                                   | 88        |
| 3.50.2   | Enhancements                                   | 88        |
| 3.50.3   | Known problems and limitations                 | 88        |
| 3.51     | STM32CubeMX V4.1 release information           | 88        |
| 3.51.1   | New features                                   | 88        |
| 3.51.2   | Enhancements                                   | 88        |
| 3.51.3   | Known problems and limitations                 | 88        |
| 3.52     | STM32CubeMX V4.0 release information           | 89        |
| 3.52.1   | New features                                   | 89        |
| 3.52.2   | Enhancements                                   | 89        |
| 3.52.3   | Known problems and limitations                 | 89        |
| <b>4</b> | <b>Revision history</b>                        | <b>90</b> |

## List of tables

|           |                                               |    |
|-----------|-----------------------------------------------|----|
| Table 1.  | STM32CubeMX 6.2.1 release summary. . . . .    | 1  |
| Table 2.  | List of software component licenses. . . . .  | 11 |
| Table 3.  | Main fixed issues in V6.2.1. . . . .          | 18 |
| Table 4.  | Firmware package versions in V6.2.1. . . . .  | 19 |
| Table 5.  | Main fixed issues in V6.2.0. . . . .          | 29 |
| Table 6.  | Firmware package versions in V6.2.0. . . . .  | 29 |
| Table 7.  | Main fixed issues in V6.1.1. . . . .          | 30 |
| Table 8.  | Firmware package versions in V6.1.1. . . . .  | 30 |
| Table 9.  | Main fixed issues in V6.1.0. . . . .          | 32 |
| Table 10. | Firmware package versions in V6.1.0. . . . .  | 32 |
| Table 11. | Main fixed issues in V6.0.1. . . . .          | 33 |
| Table 12. | Firmware package versions in V6.0.1. . . . .  | 33 |
| Table 13. | Main fixed issues in V6.0.0. . . . .          | 35 |
| Table 14. | Firmware package versions in V6.0.0. . . . .  | 35 |
| Table 15. | Fixed issues in V5.6.1. . . . .               | 36 |
| Table 16. | Firmware package versions in V5.6.1. . . . .  | 36 |
| Table 17. | Main fixed issues in V5.6.0. . . . .          | 38 |
| Table 18. | Firmware package versions in V5.6.0. . . . .  | 38 |
| Table 19. | Main fixed issues in V5.5.0. . . . .          | 40 |
| Table 20. | Firmware package versions in V5.5.0. . . . .  | 40 |
| Table 21. | Main fixed issues in V5.4.0. . . . .          | 42 |
| Table 22. | Firmware package versions in V5.4.0. . . . .  | 43 |
| Table 23. | Main fixed issues in V5.3.0. . . . .          | 44 |
| Table 24. | Firmware package versions in V5.3.0. . . . .  | 45 |
| Table 25. | Main fixed issues in V5.2.1. . . . .          | 45 |
| Table 26. | Firmware package versions in V5.2.1. . . . .  | 46 |
| Table 27. | Main fixed issues in V5.2.0. . . . .          | 47 |
| Table 28. | Firmware package versions in V5.2.0. . . . .  | 48 |
| Table 29. | Main fixed issues in V5.1.0. . . . .          | 49 |
| Table 30. | Firmware package versions in V5.1.0. . . . .  | 50 |
| Table 31. | Main fixed issues in V5.0.1. . . . .          | 50 |
| Table 32. | Firmware package versions in V5.0.1. . . . .  | 51 |
| Table 33. | Main fixed issues in V5.0.0. . . . .          | 51 |
| Table 34. | Firmware package versions in V5.0.0. . . . .  | 52 |
| Table 35. | Main fixed issues in V4.27.0. . . . .         | 53 |
| Table 36. | Firmware package versions in V4.27.0. . . . . | 53 |
| Table 37. | Main fixed issues in V4.26.1. . . . .         | 54 |
| Table 38. | Firmware package versions in V4.26.1. . . . . | 54 |
| Table 39. | Main fixed issues in V4.26.0. . . . .         | 55 |
| Table 40. | Firmware package versions in V4.26.0. . . . . | 55 |
| Table 41. | Fixed issue in V4.25.1. . . . .               | 56 |
| Table 42. | Firmware package versions in V4.25.1. . . . . | 56 |
| Table 43. | Fixed issue in V4.25.0. . . . .               | 56 |
| Table 44. | Firmware package versions in V4.25.0. . . . . | 57 |
| Table 45. | Fixed issue in V4.24.0. . . . .               | 57 |
| Table 46. | Firmware package versions in V4.24.0. . . . . | 59 |
| Table 47. | Fixed issue in V4.23.0. . . . .               | 59 |
| Table 48. | Firmware package versions in V4.23.0. . . . . | 60 |

|           |                                      |    |
|-----------|--------------------------------------|----|
| Table 49. | Fixed issue in V4.22.1               | 60 |
| Table 50. | Firmware package versions in V4.22.1 | 61 |
| Table 51. | Fixed issue in V4.22.0               | 61 |
| Table 52. | Firmware package versions in V4.22.0 | 62 |
| Table 53. | Fixed issue in V4.21.0               | 62 |
| Table 54. | Firmware package versions in V4.21.0 | 63 |
| Table 55. | Fixed issue in V4.20.1               | 64 |
| Table 56. | Firmware package versions in V4.20.1 | 64 |
| Table 57. | Fixed issues in V4.20.0              | 64 |
| Table 58. | Firmware package versions in V4.20.0 | 66 |
| Table 59. | Fixed issues in V4.19.0              | 66 |
| Table 60. | Firmware package versions in V4.19.0 | 67 |
| Table 61. | Fixed issues in V4.18.0              | 68 |
| Table 62. | Firmware package versions in V4.18.0 | 69 |
| Table 63. | Fixed issues in V4.17.0              | 69 |
| Table 64. | Firmware package versions in V4.17.0 | 70 |
| Table 65. | Fixed issues in V4.16.1              | 71 |
| Table 66. | Firmware package versions in V4.16.1 | 71 |
| Table 67. | Fixed issues in V4.16.0              | 71 |
| Table 68. | Firmware package versions in V4.16.0 | 72 |
| Table 69. | Fixed issues in V4.15.1              | 72 |
| Table 70. | Firmware package versions in V4.15.1 | 73 |
| Table 71. | Fixed issues in V4.15.0              | 73 |
| Table 72. | Firmware package versions in V4.15.0 | 75 |
| Table 73. | Fixed issues in V4.14.0              | 75 |
| Table 74. | Fixed issues in V4.13.1              | 77 |
| Table 75. | Fixed issues in V4.13.0              | 77 |
| Table 76. | Fixed issues in V4.12.0              | 78 |
| Table 77. | Fixed issues in V4.11.0              | 79 |
| Table 78. | Fixed issues in V4.10.0              | 80 |
| Table 79. | Fixed issues in V4.9.0               | 81 |
| Table 80. | Fixed issues in V4.8.0               | 82 |
| Table 81. | Fixed issues in V4.7.1               | 82 |
| Table 82. | Fixed issues in V4.7.0               | 83 |
| Table 83. | Fixed issues in V4.6.0               | 84 |
| Table 84. | Document revision history            | 90 |

# 1 General information

STM32CubeMX supports the STM32 Arm<sup>®(a)</sup>-based microcontrollers and microprocessors.



## 1.1 Overview

STM32CubeMX is a tool provided to help designers to:

- Find an STM32 microcontroller or microprocessor most suitable for their application, by shortlisting products based on the user selection of peripherals.
- Configure the microcontroller or microprocessor I/Os, clock, peripherals, DMA, interrupts, middleware and generate the corresponding initialization code.
- Evaluate the power consumption.

*Note:* Please check the latest version of the Errata Sheet for the STM32 microcontroller or microprocessor device(s) in use or planned to be used. These product limitations may not yet be implemented in the current version of STM32CubeMX. The Errata Sheets are available on [www.st.com](http://www.st.com).

## 1.2 Host PC system requirements

### Supported toolchains

STM32CubeMX generates project files for the following toolchains:

- STM32CubeIDE by STMicroelectronics
- IAR Embedded Workbench<sup>®</sup> for Arm<sup>®</sup> (EWARM) by IAR systems<sup>®</sup>
- Microcontroller Development kit for Arm<sup>®</sup> by Keil<sup>®</sup>: MDK-ARM V4 or V5 (minimum required version V4.73)
- TrueSTUDIO<sup>®</sup>
- System Workbench for STM32 (SW4STM32)

### Supported operating systems and architectures

- Windows<sup>®</sup> 8: 64-bit (x64)
- Windows<sup>®</sup> 10: 64-bit (x64)
- Linux<sup>®</sup> (tested on Red Hat<sup>®(b)</sup>, Ubuntu<sup>®(c)</sup>, and Fedora<sup>®(d)</sup> 64-bit (x64))
- macOS<sup>®</sup> (minimum version OS X<sup>®</sup> El Capitan)<sup>(e)</sup>

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a. Arm is a registered trademark of Arm Limited (or its subsidiaries) in the US and/or elsewhere.

b. Red Hat is a registered trademark of Red Hat, Inc.

c. Ubuntu is a registered trademark of Canonical Ltd.

d. Fedora<sup>®</sup> is a trademark of Red Hat, Inc.

e. macOS<sup>®</sup> and OS X<sup>®</sup> are trademarks of Apple Inc., registered in the U.S. and other countries.

## Software requirements

Administrator rights are required to download the update package and, at next launch, to complete the update process.

Java Runtime Environment: starting with version V6.2.0, STM32CubeMX embeds the Java Runtime Environment (JRE™<sup>(a)</sup>) required for its execution and no longer uses the one installed on the user's machine.

*Note:* The bundled JRE™ is Liberica 1.8.0\_265 of BellSoft.

Earlier versions than STM32CubeMX V6.2.0 require a Java Runtime Environment (JRE™) to execute.

The JRE™ version constraints are:

- 64-bit version mandatory; 32-bit version not supported
- The STM32PackCreator companion tool requires JRE™ supporting JavaFX
- Minimum JRE™ version is 1.8\_45 (known limitation with 1.8\_251)
- Version 11 is supported
- Versions 7, 9, 10, 12 and upper are not supported

The macOS® software requirements are:

- Xcode must be installed on macOS® computers
- Both Xcode and Rosetta must be installed on macOS® computers embedding the Apple®<sup>(b)</sup> M1 processor

## 1.3 Cross-selector data disclaimer

The information presented in the cross-reference tool is intended to help the users narrow their search of STMicroelectronics products based on similarity to other available products. The information is based on data published by other semiconductor manufacturers and might contain errors. STMicroelectronics provides the information “as is” and does not make any representations or warranties as to its accuracy or suitability for any particular purpose. STMicroelectronics recommends that the users make their purchase decision based on their review of STMicroelectronics datasheets and other product documentation. Any pricing information is an estimate for budgetary purposes only.

## 1.4 License

STM32CubeMX is delivered under the *Mix Ultimate Liberty+OSS+3rd-party V1* software license agreement (SLA0048).

[Table 2](#) summarizes the software components used in the development of STM32CubeMX, and their licenses.

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a. Oracle and Java are registered trademarks of Oracle and/or its affiliates.  
b. All other trademarks are the properties of their respective owners.

Table 2. List of software component licenses

| Name                 | Copyright                                            | License <sup>(1)</sup> | Details                                                             |
|----------------------|------------------------------------------------------|------------------------|---------------------------------------------------------------------|
| ST components        | ST Microelectronics                                  | Proprietary            | <a href="https://www.st.com/sla0048">https://www.st.com/sla0048</a> |
| ant                  | The Apache Ant Project                               | Apache-2.0             | <a href="https://mvnrepository.com">https://mvnrepository.com</a>   |
| ant-launcher         | The Apache Software Foundation                       |                        |                                                                     |
| commons-cli          | Kevin Atkinson                                       |                        |                                                                     |
| commons-collections4 | The Apache Software Foundation                       |                        |                                                                     |
| commons-io           | The Apache Software Foundation                       |                        |                                                                     |
| commons-lang3        | The Apache Software Foundation                       |                        |                                                                     |
| commons-logging      | The Apache Software Foundation                       |                        |                                                                     |
| commons-net          | The Apache Software Foundation                       |                        |                                                                     |
| filters              | The Apache Software Foundation                       |                        |                                                                     |
| freemarker           | The Apache Software Foundation                       |                        |                                                                     |
| gson                 | Google Inc.                                          |                        |                                                                     |
| httpclient           | The Apache Software Foundation                       |                        |                                                                     |
| httpcore             | The Apache Software Foundation                       |                        |                                                                     |
| ini4j                | The Apache Software Foundation                       |                        |                                                                     |
| IzPack               | Julien Ponge, René Krell and the IzPack contributors |                        |                                                                     |
| jackson-annotations  | The Apache Software Foundation                       |                        |                                                                     |
| jackson-core         | Tatu Saloranta                                       |                        |                                                                     |
| jackson-databind     | Tatu Saloranta                                       |                        |                                                                     |
| jna                  | The Apache Software Foundation                       |                        |                                                                     |
| joda-time            | The Apache Software Foundation                       |                        |                                                                     |
| log4j                | The Apache Software Foundation                       |                        |                                                                     |

**Table 2. List of software component licenses (continued)**

| Name                             | Copyright                            | License <sup>(1)</sup> | Details                                                                                                                                                                                                                                                           |
|----------------------------------|--------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| org.apache.ant                   | The Apache Software Foundation       | Apache-2.0             | <a href="https://mvnrepository.com">https://mvnrepository.com</a>                                                                                                                                                                                                 |
| org.apache.commons.io            | The Apache Software Foundation       |                        |                                                                                                                                                                                                                                                                   |
| OWASP Zed Attack Proxy           | The ZAP Development Team             |                        |                                                                                                                                                                                                                                                                   |
| poi                              | The Apache Software Foundation       |                        |                                                                                                                                                                                                                                                                   |
| poi-ooxml                        | WSO2 Inc.                            |                        |                                                                                                                                                                                                                                                                   |
| poi-ooxml-schemas                | The Apache Software Foundation       |                        |                                                                                                                                                                                                                                                                   |
| proxy-vole                       | Markus Bernhardt                     |                        |                                                                                                                                                                                                                                                                   |
| sqlite-jdbc                      | David Crawshaw                       |                        |                                                                                                                                                                                                                                                                   |
| stax-api                         | The Apache Software Foundation       |                        |                                                                                                                                                                                                                                                                   |
| xmlbeans                         | BEA Systems                          |                        |                                                                                                                                                                                                                                                                   |
| com.l2fprod.common-propertysheet | L2FProd.com                          |                        | <a href="https://github.com/ZenHarbinger/l2fprod-properties-editor">https://github.com/ZenHarbinger/l2fprod-properties-editor</a>                                                                                                                                 |
| JTabbedPane                      | TERAI Atsuhiro                       | MIT                    | <a href="https://java-swing-tips.blogspot.com/2008/04/drag-and-drop-tabs-in-jtabbedPane.html?_sm_au_=ifcRfQMvjQfV8ts3cLpsvK618Vf61">https://java-swing-tips.blogspot.com/2008/04/drag-and-drop-tabs-in-jtabbedPane.html?_sm_au_=ifcRfQMvjQfV8ts3cLpsvK618Vf61</a> |
| bcmail-jdk14                     | The Legion of the Bouncy Castle Inc. |                        | <a href="https://mvnrepository.com">https://mvnrepository.com</a>                                                                                                                                                                                                 |
| bcprov-jdk14                     |                                      |                        |                                                                                                                                                                                                                                                                   |
| bctsp-jdk14                      |                                      |                        |                                                                                                                                                                                                                                                                   |
| curvesapi                        | Graph Builder                        | BSD-3-clause           | <a href="https://github.com/codehaus/jaxen/tree/master/jaxen">https://github.com/codehaus/jaxen/tree/master/jaxen</a>                                                                                                                                             |
| jaxen                            | The Werken Company                   |                        |                                                                                                                                                                                                                                                                   |
| json                             | The JSON License                     | The json license       | <a href="https://mvnrepository.com">https://mvnrepository.com</a>                                                                                                                                                                                                 |

Table 2. List of software component licenses (continued)

| Name              | Copyright                                | License <sup>(1)</sup> | Details                                                                                                                                                                                                 |
|-------------------|------------------------------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| cream             | Duy Tran Le                              | LGPL-2.1               | <a href="https://cspsat.gitlab.io/cream/cream106/">https://cspsat.gitlab.io/cream/cream106/</a>                                                                                                         |
| jcommon           | Free Software Foundation, Inc.           |                        | <a href="https://mvnrepository.com">https://mvnrepository.com</a>                                                                                                                                       |
| swingx            | Sun Microsystems, Inc.                   |                        |                                                                                                                                                                                                         |
| jfreechart        | Object Refinery Limited and Contributors |                        |                                                                                                                                                                                                         |
| jSerialComm       | Fazecast, Inc.                           |                        |                                                                                                                                                                                                         |
| org.swinglabs     | Sun Microsystems, Inc.                   |                        |                                                                                                                                                                                                         |
| semver4j          | Vincent Durmont                          | MIT                    |                                                                                                                                                                                                         |
| com.lowagie       | Bruno Lowagie                            | MPL-1.1                |                                                                                                                                                                                                         |
| TextBubbleBorder  | Andrew Thompson                          | CC-BY-SA 4.0           | <a href="https://stackoverflow.com/questions/15025092/border-with-rounded-corners-transparency">https://stackoverflow.com/questions/15025092/border-with-rounded-corners-transparency</a>               |
| FileNameValidator | Nick J. R. T.                            |                        | <a href="https://stackoverflow.com/questions/893977/java-how-to-find-out-whether-a-file-name-is-valid">https://stackoverflow.com/questions/893977/java-how-to-find-out-whether-a-file-name-is-valid</a> |
| lzma-sdk-4j       | Igor Pavlov                              | The lzdma license      | <a href="https://github.com/b1-pack/lzma-sdk-4j">https://github.com/b1-pack/lzma-sdk-4j</a>                                                                                                             |
| jdom              | Jason Hunter and Brett McLaughlin        | The jdom license       | <a href="https://github.com/hunterhacker/jdom">https://github.com/hunterhacker/jdom</a>                                                                                                                 |

1. License identifier as defined by OSI (<https://opensource.org/licenses/alphabetical>) or SPDX (<https://spdx.org/licenses>).

## 2 What is new in STM32CubeMX V6.2.1?

Added the support for new firmware and manifest version in the STM32MP1 Series:

- Linux Kernel 5.10 LTS
- openstlinux-5.10-dunfell-mp1-21-03-31

### 2.1 Known limitations

- STM32CubeMX may ask to save the project after code generation, whereas there is no project update. Ignore this erroneous warning.
- The installation of firmware patch release is not supported in offline mode.
- For a project with both AES and mbedTLS activated, if the option "Generate peripheral initialization as a pair of '.c/.h' files per peripheral" is checked in the *CodeGenerator* tab, an issue occurs when compiling under IAR Embedded Workbench®. It is advised to uncheck this option.
- Migrating a project to a new software pack version after code generation leads to wrong file path generation and causes compile to fail. The workaround is then to save the project as a new project and re-generate the code.  
To migrate a project to a new software pack version, load/open the project, migrate to the new pack version, and then only generate the code.
- The "gpdsc" option in project generation is no more supported for new microcontroller or microprocessor series. It is maintained for old series for backward compatibility only.

#### When selecting microcontrollers in the STM32L5 Series:

- Arm® TrustZone® support:
  - Fixed default SAU is configured in application *partition\_stm32l552xx.h* and *partition\_stm32l562xx.h* files.
  - Import not working for TrustZone® projects (TZEN=1).
- In order to facilitate the peripheral privilege configuration, from STM32CubeMX V6.2.0, the GTZC peripheral is split into 2 domains: secure and non-secure. The side effect is that, in case of project migration from a release version before V6.2.0, if GTZC is configured in both the secure and non-secure domains with previously configured privilege peripherals on a non-secure peripheral, this configuration is lost during the migration: the GTZC\_NS privileges must be configured again.

#### When selecting microcontrollers in the STM32F4 Series and STM32F7 Series:

- IPv6 activation is not yet fully supported by the EWARM and MDK-ARM toolchains, causing compilation errors with MDK-ARM and compilation warnings with EWARM.

**When selecting microcontrollers in the STM32WB Series:**

- THREAD is not supported in Power Consumption Calculator (PCC) for the STM32WB Series.
- The value of the CFG\_BLE\_MAX\_CONN\_EVENT\_LENGTH parameter in file *app\_conf.h* is wrongly formatted: uint16\_t is used instead of uint32\_t. This impacts the *Data Throughput* of the application since the max value is 0xFFFF while it should be 0xFFFF FFFF. The defined value must be changed manually in the generated code.

**When selecting microcontrollers in the STM32WL Series:**

- If LoRaWAN®, SubGHZ\_Phy or Sigfox™ middleware is used with option *Generate peripheral initialization as a pair of '.c/.h' files per peripheral* disabled, it is advised to untick the visibility of the SUBGHZ and IPCC peripherals in [Project Manager]> [Advanced Settings] *Generated Function Calls* panel to avoid an issue when compiling.
- Import from and to dual-core is not working for the STM32WL Series.
- For dual-core products, IPCC LL + RF middleware (LoRaWAN®, Sigfox™ and SubGHZ\_Phy) is not supported.
- If a Sigfox™ project is generated with MDK-ARM, the following option must be set in the project *Options C/C++(AC6)* panel: *Misc Controls*: -fshort-enums
- The SubGHZ peripheral is forced on the Cortex®-M0+.
- In case of a project migration from a release version before V6.2.0, in order to facilitate the GTZC configuration, some previously default configuration ("enabled"/"disabled") have been moved to "default" configuration. This new state provides the default configuration of the MCU without code generation. Users specifically needing this code generation must modify this state.

**When selecting microcontrollers in the STM32H7 Series:**

- MDMA and HSEM are not supported in LL. Only HAL is supported.

**When selecting dual-core microcontrollers in the STM32H7 Series:**

- Only Boot0 is supported: both cores boot at once.
- Import from and to dual-core STM32H7 is not supported.
- For memory-to-memory DMA or BDMA or MDMA configuration, the initialization code is generated for both cores.
- OpenAMP issue when compiling under EWARM and MDK-ARM when OpenAMP is activated under STM32CubeMX:
  - To avoid link errors in OpenAMP when compiling in EWARM IDE, add the next four lines of code in the linker files (.icf):
 

```
/* Create region for OPENAMP */
define symbol __OPENAMP_region_start__ = 0x38000400;
define symbol __OPENAMP_region_size__ = 0xFC00;
export symbol __OPENAMP_region_start__;
export symbol __OPENAMP_region_size__;
```
  - To avoid link errors in OpenAMP when compiling in MDK-ARM IDE, add the next four lines of code in the linker files (.sct):
 

```
; ***** Create region for OPENAMP *****
.resource_table +0 ALIGN 4 { ; resource table
*(.resource_table)
}
; Shared Memory area used by OpenAMP
__OpenAMP_SHMEM__ 0x38000400 EMPTY 0xFC00 {}
```
- OpenAMP under STM32CubeIDE need linker file update:
  - The following lines must be added under the .ld file:
 

```
/* Specify the memory areas */
MEMORY
{
...
m_ipc_shm      (RW)  : ORIGIN = 0x38000400, LENGTH = 63K
}

/* Symbols needed for OpenAMP to enable rpmsg */
__OPENAMP_region_start__=ORIGIN(m_ipc_shm);
__OPENAMP_region_end__=ORIGIN(m_ipc_shm)+LENGTH(m_ipc_shm);
```

### When selecting microprocessors in the STM32MP1 Series:

- DMA nodes are generated in the device tree but the DMA properties in the IP clients nodes are not generated.
- Import from and to MPU projects does not work properly.
- Dual-core project structure compatibility break : the action to import (migrate or continue) projects created with versions earlier than STM32CubeMX V5.3.0 is supported but requires the manual copy of `USER SECTIONS` for the Device Tree and Cortex®-M4 firmware from the former folder structure (*DeviceTree/Inc/Src*) to the new one (*CA7/DeviceTree - CM4/Src - CM4/Inc*).
- Additional software is not supported.
- RCC generation in *Production* mode not supported on co-processor side; Only the *Engineering* mode is supported.  
By default, the STM32CubeMX-generated code is compliant with the *Engineering* mode. Therefore, the call of the following clock functions must be removed in the *Production* mode since these clocks are then managed by Linux®:  
`SystemClock_Config()`, `PeriphCommonClock_Config()`, and `HAL_RCCEx_PeriphCLKConfig()`.  
The system part (`SystemClock_Config()` and `PeriphCommonClock_Config()`) can be removed in STM32CubeMX by selecting *[Not Generate function call]* for RCC in the *Project Manager*, then *Advanced Settings* tabs.  
`HAL_RCCEx_PeriphCLKConfig()` must be removed manually from file *stm32mp1xx\_hal\_msp.c* (STM32CubeMX-generated code).  
To make the user code compatible with both the engineering and production modes, the above RCC functions can be put under dynamic condition  
`if (IS_ENGINEERING_BOOT_MODE())`.
- On macOS®, installation issues may result from the fact that the install is not signed. Use the following procedure:
  - a) Download STM32CubeMX on a Window® OS personal computer
  - b) Copy the downloaded install into the macOS® personal computer
  - c) Launch the install
- OpenAMP warning when compiling under MDK-ARM if OpenAMP is not activated under STM32CubeMX:
  - Remove the next four lines of code from the linker files (.sct) to avoid warning "No section matches pattern \*(.resource\_table)":  

```

; ***** Comment these 4 lines if OPENAMP is not used *****
.resource_table +0 ALIGN 4 { ; resource table
*(.resource_table)
}
; Shared Memory area used by OpenAMP
__OpenAMP_SHMEM__ 0x10040000 EMPTY 0x8000 {}

```
- Device tree generation: the "pwr" user section name is changed to "pwr\_regulators".
  - Existing code in the "pwr" user section must be backed up and reported manually into the new "pwr\_regulators" user section after code generation.

### STM32CubeIDE toolchain:

- It is functional only with a Java 8 64-bit Java Virtual Machine with versions earlier than STM32CubeMX V5.6.1.

**Example Selector:**

- The feature is functional only for the examples related to the STM32F4, STM32F7, STM32G0, STM32G4, STM32H7, STM32L5, STM32WB, and STM32WL Series.

**Software Packs:**

- When a pack is disabled, generated files are not removed from the project
  - Workaround: remove these files manually
- Possible issue with component dependencies in the *Additional Software components selection* window
  - Workaround: click on the *Refresh* button from the *Embedded Software Packages Manager*
- When using the GNSS pack, users must not migrate their project from 3.x to 4.0.0
- Functionalities not supported:
  - `maxInstances`, `isDefaultVariant`, `generator` attributes of the component element
  - `Dtz`, `Ddsp`, `Dsecure` attributes of the condition element
  - repository element
  - tag and url attributes of a release element
  - dominate element
  - public attributes for the file element
  - `preIncludeLocal` and `preIncludeGlobal` file category attributes
  - `Pre_Include_Local_h` element
  - `Pre_Include_Global_h` element
  - Pack components where attribute values come with a "." character

Some chapters in the *STM32CubeMX for STM32 configuration and initialization C code generation* user manual (UM1718) are not fully up to date.

## 2.2 Main fixed issues

**Table 3. Main fixed issues in V6.2.1**

| ID    | Summary                                                                                                       |
|-------|---------------------------------------------------------------------------------------------------------------|
| 88481 | [STM32CubeMX][STM32MP15] PA10 assigned to USB_OTG_HS_ID when configuring USB OTG with device-only controller. |
| 96553 | [MBOX_IPCC] Unexpected <code>rproc_virtio_notified</code> call.                                               |

## 2.3 Firmware package versions

[Table 4](#) shows the firmware package versions.

**Table 4. Firmware package versions in V6.2.1**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32F0                                   | V1.11.2 |
| STM32F1                                   | V1.8.3  |
| STM32F2                                   | V1.9.2  |
| STM32F3                                   | V1.11.2 |
| STM32F4                                   | V1.26.0 |
| STM32F7                                   | V1.16.1 |
| STM32G0                                   | V1.4.1  |
| STM32G4                                   | V1.4.0  |
| STM32H7                                   | V1.9.0  |
| STM32L0                                   | V1.12.0 |
| STM32L1                                   | V1.10.2 |
| STM32L4                                   | V1.17.0 |
| STM32L5                                   | V1.4.0  |
| STM32MP1                                  | V1.4.0  |
| STM32WB                                   | V1.11.0 |
| STM32WL                                   | V1.0.0  |

## 3 Release information

### 3.1 Microcontrollers and microprocessors supported by this release

- STM32F030C(6-8-C)Tx, STM32F030F4Px, STM32F030K6Tx, STM32F030R(8-C)Tx
- STM32F031C(4-6)Tx, STM32F031E6Yx, STM32F031F(4-6)Px, STM32F031G(4-6)Ux, STM32F031K6Tx, STM32F031K(4-6)Ux
- STM32F038C6Tx, STM32F038E6Yx, STM32F038F6Px, STM32F038G6Ux, STM32F038K6Ux
- STM32F042C(4-6)Tx, STM32F042C(4-6)Ux, STM32F042F(4-6)Px, STM32F042G(4-6)Ux, STM32F042K(4-6)Tx, STM32F042K(4-6)Ux, STM32F042T6Yx
- STM32F048C6Ux, STM32F048G6Ux, STM32F048T6Yx
- STM32F051C(4-6-8)Tx, STM32F051C(4-6-8)Ux, STM32F051K(4-6-8)Tx, STM32F051K(4-6-8)Ux, STM32F051R8Hx, STM32F051R(4-6-8)Tx, STM32F051T8Yx
- STM32F058C8Ux, STM32F058R8Hx, STM32F058R8Tx, STM32F058T8Yx
- STM32F070C(6-B)Tx, STM32F070F6Px, STM32F070RBTx
- STM32F071C(8-B)Tx, STM32F071C(8-B)Ux, STM32F071CBYx, STM32F071RBTx, STM32F071V(8-B)Hx, STM32F071V(8-B)Tx
- STM32F072C(8-B)Tx, STM32F072C(8-B)Ux, STM32F072CBYx, STM32F072RBHx, STM32F072R(8-B)Tx, STM32F072V(8-B)Hx, STM32F072V(8-B)Tx
- STM32F078CBTx, STM32F078CBUx, STM32F078CBYx, STM32F078RBHx, STM32F078RBTx, STM32F078VBHx, STM32F078VBTx
- STM32F091C(B-C)Tx, STM32F091C(B-C)Ux, STM32F091RCHx, STM32F091R(B-C)Tx, STM32F091RCYx, STM32F091VCHx, STM32F091V(B-C)Tx
- STM32F098CCTx, STM32F098CCUx, STM32F098RCHx, STM32F098RCTx, STM32F098RCYx, STM32F098VCHx, STM32F098VCTx
- STM32F100C(4-6-8-B)Tx, STM32F100R(4-6-8-B)Hx, STM32F100R(4-6-8-B-C-D-E)Tx, STM32F100V(8-B-C-D-E)Tx, STM32F100Z(C-D-E)Tx
- STM32F101C(4-6-8-B)Tx, STM32F101C(8-B)Ux, STM32F101RBHx, STM32F101R(4-6-8-B-C-D-E-F-G)Tx, STM32F101T(4-6-8-B)Ux, STM32F101V(8-B-C-D-E-F-G)Tx, STM32F101Z(C-D-E-F-G)Tx
- STM32F102C(4-6-8-B)Tx, STM32F102R(4-6-8-B)Tx
- STM32F103C(4-6-8-B)Tx, STM32F103C(6-B)Ux, STM32F103R(4-6-8-B)Hx, STM32F103R(4-6-8-B-C-D-E-F-G)Tx, STM32F103R(C-D-E)Yx, STM32F103T(4-6-8-B)Ux, STM32F103V(8-B-C-D-E)Hx, STM32F103VBHx, STM32F103V(8-B-C-D-E-F-G)Tx, STM32F103Z(C-D-E-F-G)Hx, STM32F103Z(C-D-E-F-G)Tx
- STM32F105R(8-B-C)Tx, STM32F105VBHx, STM32F105V(8-B-C)Tx
- STM32F107R(B-C)Tx, STM32F107VCHx, STM32F107V(B-C)Tx
- STM32F205R(B-C-E-F-G)Tx, STM32F205R(E-G)Yx, STM32F205V(B-C-E-F-G)Tx, STM32F205Z(C-E-F-G)Tx
- STM32F207I(C-E-F-G)Hx, STM32F207I(C-E-F-G)Tx, STM32F207V(C-E-F-G)Tx, STM32F207Z(C-E-F-G)Tx

- STM32F215R(E-G)Tx, STM32F215V(E-G)Tx, STM32F215Z(E-G)Tx
- STM32F217I(E-G)Hx, STM32F217I(E-G)Tx, STM32F217V(E-G)Tx, STM32F217Z(E-G)Tx
- STM32F301C(6-8)Tx, STM32F301C8Yx, STM32F301K(6-8)Tx, STM32F301K(6-8)Ux, STM32F301R(6-8)Tx
- STM32F302C(6-8-B-C)Tx, STM32F302C8Yx, STM32F302K(6-8)Ux, STM32F302R(6-8-B-C-D-E)Tx, STM32F302V(D-E)Hx, STM32F302V(B-C-D-E)Tx, STM32F302VCYx, STM32F302Z(D-E)Tx
- STM32F303C(6-8-B-C)Tx, STM32F303C8Yx, STM32F303K(6-8)Tx, STM32F303R(6-8-B-C-D-E)Tx, STM32F303V(D-E)Hx, STM32F303V(B-C-D-E)Tx, STM32F303V(C-E)Yx, STM32F303Z(D-E)Tx
- STM32F318C8Tx, STM32F318C8Yx, STM32F318K8Ux
- STM32F328C8Tx
- STM32F334C(4-6-8)Tx, STM32F334C8Yx, STM32F334K(4-6-8)Tx, STM32F334K(4-8)Ux, STM32F334R(6-8)Tx
- STM32F358CCTx, STM32F358RCTx, STM32F358VCTx
- STM32F373C(8-B-C)Tx, STM32F373R(8-B-C)Tx, STM32F373V(8-B-C)Hx, STM32F373V(8-B-C)Tx
- STM32F378CCTx, STM32F378RCTx, STM32F378RCYx, STM32F378VCHx, STM32F378VCTx
- STM32F398VETx
- STM32F401CCFx, STM32F401C(B-C-D-E)Ux, STM32F401C(C-D)Yx, STM32F401R(B-C-D-E)Tx, STM32F401V(B-C-D-E)Hx, STM32F401V(B-C-D-E)Tx
- STM32F405O(E-G)Yx, STM32F405RGTx, STM32F405VGTx, STM32F405ZGTx
- STM32F407I(E-G)Hx, STM32F407I(E-G)Tx, STM32F407V(E-G)Tx, STM32F407Z(E-G)Tx
- STM32F410CBTx, STM32F410C(8-B)Ux, STM32F410RBlx, STM32F410R(8-B)Tx, STM32F410T(8-B)Yx
- STM32F411C(C-E)Ux, STM32F411C(C-E)Yx, STM32F411R(C-E)Tx, STM32F411VEHx, STM32F411V(C-E)Tx
- STM32F412C(E-G)Ux, STM32F412R(E-G)Tx, STM32F412R(E-G)Yx, STM32F412RGYxP, STM32F412V(E-G)Hx, STM32F412V(E-G)Tx, STM32F412Z(E-G)Jx, STM32F412Z(E-G)Tx
- STM32F413C(G-H)Ux, STM32F413M(G-H)Yx, STM32F413R(G-H)Tx, STM32F413V(G-H)Hx, STM32F413V(G-H)Tx, STM32F413Z(G-H)Jx, STM32F413Z(G-H)Tx
- STM32F415OGYx, STM32F415RGTx, STM32F415VGTx, STM32F415ZGTx
- STM32F417I(E-G)Hx, STM32F417I(E-G)Tx, STM32F417V(E-G)Tx, STM32F417Z(E-G)Tx
- STM32F423CHUx, STM32F423MHYx, STM32F423RHTx, STM32F423VHHx, STM32F423VHTx, STM32F423ZHJx, STM32F423ZHTx
- STM32F427A(G-I)Hx, STM32F427I(G-I)Hx, STM32F427I(G-I)Tx, STM32F427V(G-I)Tx, STM32F427Z(G-I)Tx
- STM32F429A(G-I)Hx, STM32F429B(E-G-I)Tx, STM32F429I(E-G-I)Hx, STM32F429I(E-G-I)Tx, STM32F429N(E-G-I)Hx, STM32F429V(E-G-I)Tx, STM32F429Z(E-G-I)Tx, STM32F429Z(G-I)Yx

- STM32F437AIHx, STM32F437I(G-I)Hx, STM32F437I(G-I)Tx, STM32F437V(G-I)Tx, STM32F437Z(G-I)Tx
- STM32F439AIHx, STM32F439B(G-I)Tx, STM32F439I(G-I)Hx, STM32F439I(G-I)Tx, STM32F439N(G-I)Hx, STM32F439V(G-I)Tx, STM32F439Z(G-I)Tx, STM32F439Z(G-I)Yx
- STM32F446M(C-E)Yx, STM32F446R(C-E)Tx, STM32F446V(C-E)Tx, STM32F446Z(C-E)Hx, STM32F446Z(C-E)Jx, STM32F446Z(C-E)Tx
- STM32F469A(E-G-I)Hx, STM32F469A(G-I)Yx, STM32F469B(E-G-I)Tx, STM32F469I(E-G-I)Hx, STM32F469I(G-I)Tx, STM32F469N(E-G-I)Hx, STM32F469V(E-G-I)Tx, STM32F469Z(E-G-I)Tx
- STM32F479A(G-I)Hx, STM32F479AIYx, STM32F479B(G-I)Tx, STM32F479I(G-I)Hx, STM32F479IITx, STM32F479N(G-I)Hx, STM32F479V(G-I)Tx, STM32F479Z(G-I)Tx
- STM32F722I(C-E)Kx, STM32F722I(C-E)Tx, STM32F722R(C-E)Tx, STM32F722V(C-E)Tx, STM32F722Z(C-E)Tx
- STM32F723I(C-E)Kx, STM32F723I(C-E)Tx, STM32F723V(C-E)Tx, STM32F723VEYx, STM32F723Z(C-E)Ix, STM32F723Z(C-E)Tx
- STM32F730I8Kx, STM32F730R8Tx, STM32F730V8Tx, STM32F730Z8Tx
- STM32F732IEKx, STM32F732IETx, STM32F732RETx, STM32F732VETx, STM32F732ZETx
- STM32F733IEKx, STM32F733IETx, STM32F733VETx, STM32F733VEYx, STM32F733ZEIx, STM32F733ZETx
- STM32F745I(E-G)Kx, STM32F745I(E-G)Tx, STM32F745V(E-G)Hx, STM32F745V(E-G)Tx, STM32F745Z(E-G)Tx
- STM32F746B(E-G)Tx, STM32F746I(E-G)Kx, STM32F746I(E-G)Tx, STM32F746N(E-G)Hx, STM32F746V(E-G)Hx, STM32F746V(E-G)Tx, STM32F746Z(E-G)Tx, STM32F746Z(E-G)Yx
- STM32F750N8Hx, STM32F750V8Tx, STM32F750Z8Tx
- STM32F756BGTx, STM32F756IGKx, STM32F756IGTx, STM32F756NGHx, STM32F756VGHx, STM32F756VGTx, STM32F756ZGTx, STM32F756ZGYx
- STM32F765B(G-I)Tx, STM32F765I(G-I)Kx, STM32F765I(G-I)Tx, STM32F765N(G-I)Hx, STM32F765V(G-I)Hx, STM32F765V(G-I)Tx, STM32F765Z(G-I)Tx
- STM32F767B(G-I)Tx, STM32F767I(G-I)Kx, STM32F767I(G-I)Tx, STM32F767N(G-I)Hx, STM32F767V(G-I)Hx, STM32F767V(G-I)Tx, STM32F767Z(G-I)Tx
- STM32F769AIYx, STM32F769B(G-I)Tx, STM32F769I(G-I)Tx, STM32F769N(G-I)Hx
- STM32F777BITx, STM32F777IIXx, STM32F777IITx, STM32F777NIHx, STM32F777VIHx, STM32F777VITx, STM32F777ZITx
- STM32F778AIYx
- STM32F779AIYx, STM32F779BITx, STM32F779IITx, STM32F779NIHx
- STM32G030C(6-8)Tx, STM32G030F6Px, STM32G030J6Mx, STM32G030K(6-8)Tx
- STM32G031C(4-6-8)Tx, STM32G031C(4-6-8)Ux, STM32G031F(4-6-8)Px, STM32G031G(4-6-8)Ux, STM32G031J(4-6)Mx, STM32G031K(4-6-8)Tx, STM32G031K(4-6-8)Ux, STM32G031Y8Yx
- STM32G041C(6-8)Tx, STM32G041C(6-8)Ux, STM32G041F(6-8)Px, STM32G041G(6-8)Ux, STM32G041J6Mx, STM32G041K(6-8)Tx, STM32G041K(6-8)Ux, STM32G041Y8Yx

- STM32G050C(6-8)Tx, STM32G050F6Px, STM32G050K(6-8)Tx
- STM32G051C(6-8)Tx, STM32G051C(6-8)Ux, STM32G051F(6-8)Px, STM32G051F8Yx, STM32G051G(6-8)Ux, STM32G051K(6-8)Tx, STM32G051K(6-8)Ux
- STM32G061C(6-8)Tx, STM32G061C(6-8)Ux, STM32G061F(6-8)Px, STM32G061F8Yx, STM32G061G(6-8)Ux, STM32G061K(6-8)Tx, STM32G061K(6-8)Ux
- STM32G070CBTx, STM32G070KBTx, STM32G070RBTx
- STM32G071C(6-8-B)Tx, STM32G071C(6-8-B)Ux, STM32G071EBYx, STM32G071G(6-8-B)Ux, STM32G071G(8-B)UxN, STM32G071K(6-8-B)Tx, STM32G071K(8-B)TxN, STM32G071K(6-8-B)Ux, STM32G071K(8-B)UxN, STM32G071RBx, STM32G071R(6-8-B)Tx
- STM32G081CBTx, STM32G081CBUx, STM32G081EBYx, STM32G081GBUx, STM32G081GBUxN, STM32G081KBTx, STM32G081KBTxN, STM32G081KBUX, STM32G081KBUXN, STM32G081RBx, STM32G081RBTx
- STM32G0B0CETx, STM32G0B0KETx, STM32G0B0RETx, STM32G0B0VETx
- STM32G0B1C(B-C-E)Tx, STM32G0B1C(B-C-E)TxN, STM32G0B1C(B-C-E)Ux, STM32G0B1C(B-C-E)UxN, STM32G0B1K(B-C-E)Tx, STM32G0B1K(B-C-E)TxN, STM32G0B1K(B-C-E)Ux, STM32G0B1K(B-C-E)UxN, STM32G0B1M(B-C-E)Tx, STM32G0B1NEYx, STM32G0B1R(B-C-E)IxN, STM32G0B1R(B-C-E)Tx, STM32G0B1R(B-C-E)TxN, STM32G0B1V(B-C-E)Ix, STM32G0B1V(B-C-E)Tx
- STM32G0B1C(C-E)Tx, STM32G0B1C(C-E)Ux, STM32G0B1K(C-E)Tx, STM32G0B1K(C-E)TxN, STM32G0B1K(C-E)Ux, STM32G0B1K(C-E)UxN, STM32G0B1M(C-E)Tx, STM32G0B1R(C-E)Ix, STM32G0B1R(C-E)Tx, STM32G0B1V(C-E)Ix, STM32G0B1V(C-E)Tx
- STM32G0C1C(C-E)Tx, STM32G0C1C(C-E)Ux, STM32G0C1K(C-E)Tx, STM32G0C1K(C-E)TxN, STM32G0C1K(C-E)Ux, STM32G0C1K(C-E)UxN, STM32G0C1M(C-E)Tx, STM32G0C1R(C-E)Ix, STM32G0C1R(C-E)Tx, STM32G0C1V(C-E)Ix, STM32G0C1V(C-E)Tx
- STM32G431C(6-8-B)Tx, STM32G431C(6-8-B)Ux, STM32G431CBYx, STM32G431K(6-8-B)Tx, STM32G431K(6-8-B)Ux, STM32G431M(6-8-B)Tx, STM32G431R(6-8-B)Ix, STM32G431R(6-8-B)Tx, STM32G431V(6-8-B)Tx
- STM32G441CBTx, STM32G441CBUx, STM32G441CBYx, STM32G441KBTx, STM32G441KBUX, STM32G441MBTx, STM32G441RBx, STM32G441RBTx, STM32G441VBTx
- STM32G471C(C-E)Tx, STM32G471C(C-E)Ux, STM32G471M(C-E)Tx, STM32G471MEYx, STM32G471Q(C-E)Tx, STM32G471R(C-E)Tx, STM32G471V(C-E)Hx, STM32G471V(C-E)Ix, STM32G471V(C-E)Tx
- STM32G473C(B-C-E)Tx, STM32G473C(B-C-E)Ux, STM32G473M(B-C-E)Tx, STM32G473MEYx, STM32G473P(B-C-E)Ix, STM32G473Q(B-C-E)Tx, STM32G473R(B-C-E)Tx, STM32G473V(B-C-E)Hx, STM32G473V(B-C-E)Ix, STM32G473V(B-C-E)Tx
- STM32G474C(B-C-E)Tx, STM32G474C(B-C-E)Ux, STM32G474M(B-C-E)Tx, STM32G474MEYx, STM32G474P(B-C-E)Ix, STM32G474Q(B-C-E)Tx, STM32G474R(B-C-E)Tx, STM32G474V(B-C-E)Hx, STM32G474V(B-C-E)Ix, STM32G474V(B-C-E)Tx

- STM32G483CETx, STM32G483CEUx, STM32G483METx, STM32G483MEYx, STM32G483PEIx, STM32G483QETx, STM32G483RETx, STM32G483VEHx, STM32G483VEIx, STM32G483VETx
- STM32G484CETx, STM32G484CEUx, STM32G484METx, STM32G484MEYx, STM32G484PEIx, STM32G484QETx, STM32G484RETx, STM32G484VEHx, STM32G484VEIx, STM32G484VETx
- STM32G491C(C-E)Tx, STM32G491C(C-E)Ux, STM32G491K(C-E)Ux, STM32G491M(C-E)Sx, STM32G491M(C-E)Tx, STM32G491R(C-E)Ix, STM32G491R(C-E)Tx, STM32G491REYx, STM32G491V(C-E)Tx
- STM32G4A1CETx, STM32G4A1CEUx, STM32G4A1KEUx, STM32G4A1MESx, STM32G4A1METx, STM32G4A1REIx, STM32G4A1RETx, STM32G4A1REYx, STM32G4A1VETx
- STM32GBK1CBTx
- STM32H723V(E-G)Hx, STM32H723V(E-G)Tx, STM32H723Z(E-G)Ix, STM32H723Z(E-G)Tx
- STM32H725A(E-G)Ix, STM32H725I(E-G)Kx, STM32H725I(E-G)Tx, STM32H725R(E-G)Vx, STM32H725V(E-G)Hx, STM32H725V(E-G)Tx, STM32H725VGy, STM32H725Z(E-G)Tx
- STM32H730ABIxQ, STM32H730IBKxQ, STM32H730IBTxQ, STM32H730VBHx, STM32H730VBTx, STM32H730ZBix, STM32H730ZBTx
- STM32H733VGHx, STM32H733VGTx, STM32H733ZGix, STM32H733ZGTx
- STM32H735AGIx, STM32H735IGKx, STM32H735IGTx, STM32H735RGVx, STM32H735VGTx, STM32H735VGy, STM32H735ZGTx
- STM32H742A(G-I)Ix, STM32H742B(G-I)Tx, STM32H742I(G-I)Kx, STM32H742I(G-I)Tx, STM32H742V(G-I)Hx, STM32H742V(G-I)Tx, STM32H742X(G-I)Hx, STM32H742Z(G-I)Tx
- STM32H743A(G-I)Ix, STM32H743B(G-I)Tx, STM32H743I(G-I)Kx, STM32H743I(G-I)Tx, STM32H743V(G-I)Hx, STM32H743V(G-I)Tx, STM32H743X(G-I)Hx, STM32H743Z(G-I)Tx
- STM32H745B(G-I)Tx, STM32H745I(G-I)Kx, STM32H745I(G-I)Tx, STM32H745X(G-I)Hx, STM32H745Z(G-I)Tx
- STM32H747A(G-I)Ix, STM32H747B(G-I)Tx, STM32H747I(G-I)Tx, STM32H747X(G-I)Hx, STM32H747ZIYx
- STM32H750IBKx, STM32H750IBTx, STM32H750VBTx, STM32H750XBHx, STM32H750ZBTx
- STM32H753Alx, STM32H753BITx, STM32H753IIXx, STM32H753IITx, STM32H753VIHx, STM32H753VITx, STM32H753XIHx, STM32H753ZITx
- STM32H755BITx, STM32H755IIXx, STM32H755IITx, STM32H755XIHx, STM32H755ZITx
- STM32H757Alx, STM32H757BITx, STM32H757IITx, STM32H757XIHx, STM32H757ZIYx
- STM32H7A3A(G-I)IxQ, STM32H7A3I(G-I)Kx, STM32H7A3I(G-I)KxQ, STM32H7A3I(G-I)Tx, STM32H7A3I(G-I)TxQ, STM32H7A3L(G-I)HxQ, STM32H7A3N(G-I)Hx, STM32H7A3QIYxQ, STM32H7A3R(G-I)Tx, STM32H7A3V(G-I)Hx, STM32H7A3V(G-I)HxQ, STM32H7A3V(G-I)Tx, STM32H7A3V(G-I)TxQ, STM32H7A3Z(G-I)Tx, STM32H7A3Z(G-I)TxQ

- STM32H7B0ABIxQ, STM32H7B0IBKxQ, STM32H7B0IBTx, STM32H7B0RBTx, STM32H7B0VBTx, STM32H7B0ZBTx
- STM32H7B3AIIxQ, STM32H7B3IIKx, STM32H7B3IIKxQ, STM32H7B3IITx, STM32H7B3IITxQ, STM32H7B3LIHxQ, STM32H7B3NIHx, STM32H7B3QIYxQ, STM32H7B3RITx, STM32H7B3VIHx, STM32H7B3VIHxQ, STM32H7B3VITx, STM32H7B3VITxQ, STM32H7B3ZITx, STM32H7B3ZITxQ
- STM32L010C6Tx, STM32L010F4Px, STM32L010K(4-8)Tx, STM32L010R(8-B)Tx
- STM32L011D(3-4)Px, STM32L011E(3-4)Yx, STM32L011F(3-4)Px, STM32L011F(3-4)Ux, STM32L011G(3-4)Ux, STM32L011K4Tx, STM32L011K(3-4)Ux
- STM32L021D4Px, STM32L021F4Ux, STM32L021G4Ux, STM32L021K4Tx
- STM32L031C(4-6)Tx, STM32L031C(4-6)Ux, STM32L031E(4-6)Yx, STM32L031F(4-6)Px, STM32L031G(4-6)Ux, STM32L031G6UxS, STM32L031K6Tx, STM32L031K(4-6)Ux
- STM32L041C6Tx, STM32L041C6Ux, STM32L041E6Yx, STM32L041F6Px, STM32L041G6Ux, STM32L041G6UxS, STM32L041K6Tx, STM32L041K6Ux
- STM32L051C(6-8)Tx, STM32L051C(6-8)Ux, STM32L051K(6-8)Tx, STM32L051K(6-8)Ux, STM32L051R(6-8)Hx, STM32L051R(6-8)Tx, STM32L051T(6-8)Yx
- STM32L052C(6-8)Tx, STM32L052C(6-8)Ux, STM32L052K(6-8)Tx, STM32L052K(6-8)Ux, STM32L052R(6-8)Hx, STM32L052R(6-8)Tx, STM32L052T8Fx, STM32L052T(6-8)Yx
- STM32L053C(6-8)Tx, STM32L053C(6-8)Ux, STM32L053R(6-8)Hx, STM32L053R(6-8)Tx
- STM32L062C8Ux, STM32L062K8Tx, STM32L062K8Ux
- STM32L063C8Tx, STM32L063C8Ux, STM32L063R8Tx
- STM32L071C(8-B-Z)Tx, STM32L071C(8-B-Z)Ux, STM32L071C(B-Z)Yx, STM32L071K(B-Z)Tx, STM32L071K(8-B-Z)Ux, STM32L071R(B-Z)Hx, STM32L071R(B-Z)Tx, STM32L071V(8-B-Z)Tx
- STM32L072CZEx, STM32L072C(B-Z)Tx, STM32L072C(B-Z)Ux, STM32L072C(B-Z)Yx, STM32L072KZTx, STM32L072K(B-Z)Ux, STM32L072R(B-Z)Hx, STM32L072R(B-Z)Ix, STM32L072R(B-Z)Tx, STM32L072V(8-B-Z)Ix, STM32L072V(8-B-Z)Tx
- STM32L073C(B-Z)Tx, STM32L073C(B-Z)Ux, STM32L073CZYx, STM32L073R(B-Z)Hx, STM32L073RZIx, STM32L073R(B-Z)Tx, STM32L073VZIx, STM32L073V(8-B-Z)Tx
- STM32L081C(B-Z)Tx, STM32L081CZUx, STM32L081KZTx, STM32L081KZUx
- STM32L082CZUx, STM32L082CZYx, STM32L082KZTx, STM32L082K(B-Z)Ux
- STM32L083C(B-Z)Tx, STM32L083CZUx, STM32L083R(B-Z)Hx, STM32L083R(B-Z)Tx, STM32L083VZIx, STM32L083V(8-B-Z)Tx
- STM32L100C6Ux, STM32L100C6UxA, STM32L100R(8-B-C)Tx, STM32L100R(8-B)TxA
- STM32L151C(6-8-B-C)Tx, STM32L151C(6-8-B)TxA, STM32L151C(6-8-B-C)Ux, STM32L151C(6-8-B)UxA, STM32L151Q(C-D-E)Hx, STM32L151R(6-8-B)Hx, STM32L151R(6-8-B)HxA, STM32L151R(6-8-B-C-D-E)Tx, STM32L151R(6-8-B-C)TxA, STM32L151R(C-D)Yx, STM32L151UCYx, STM32L151V(8-B-C)Hx, STM32L151V(8-B)HxA, STM32L151V(8-B-C-D-E)Tx, STM32L151V(8-B-C)TxA, STM32L151VDTxX, STM32L151VEYx, STM32L151VDYxX, STM32L151Z(C-D-E)Tx

- STM32L152C(6-8-B-C)Tx, STM32L152C(6-8-B)TxA, STM32L152C(6-8-B-C)Ux, STM32L152C(6-8-B)UxA, STM32L152Q(C-D-E)Hx, STM32L152R(6-8-B)Hx, STM32L152R(6-8-B)HxA, STM32L152R(6-8-B-C-D-E)Tx, STM32L152R(6-8-B-C)TxA, STM32L152RDYx, STM32L152UCYx, STM32L152V(8-B-C)Hx, STM32L152V(8-B)HxA, STM32L152V(8-B-C-D-E)Tx, STM32L152V(8-B-C)TxA, STM32L152VDTxX, STM32L152VEYx, STM32L152Z(C-D-E)Tx
- STM32L162Q(C-D)Hx, STM32L162R(C-D-E)Tx, STM32L162RCTxA, STM32L162RDYx, STM32L162VCHx, STM32L162V(C-D-E)Tx, STM32L162VCTxA, STM32L162VEYx, STM32L162VDYxX, STM32L162Z(C-D-E)Tx
- STM32L412C(8-B)Tx, STM32L412CBTxP, STM32L412C(8-B)Ux, STM32L412CBUxP, STM32L412K(8-B)Tx, STM32L412K(8-B)Ux, STM32L412R(8-B)Ix, STM32L412RBIXP, STM32L412R(8-B)Tx, STM32L412RBTxP, STM32L412T(8-B)Yx, STM32L412TBYxP
- STM32L422CBTx, STM32L422CBUx, STM32L422KBTx, STM32L422KBUx, STM32L422RBIX, STM32L422RBTx, STM32L422TBYx
- STM32L431C(B-C)Tx, STM32L431C(B-C)Ux, STM32L431C(B-C)Yx, STM32L431K(B-C)Ux, STM32L431R(B-C)Ix, STM32L431R(B-C)Tx, STM32L431R(B-C)Yx, STM32L431VCIX, STM32L431VCTx
- STM32L432K(B-C)Ux
- STM32L433C(B-C)Tx, STM32L433C(B-C)Ux, STM32L433C(B-C)Yx, STM32L433R(B-C)Ix, STM32L433R(B-C)Tx, STM32L433RCTxP, STM32L433R(B-C)Yx, STM32L433VCIX, STM32L433VCTx
- STM32L442KCUx
- STM32L443CCTx, STM32L443CCUx, STM32L443CCYx, STM32L443RCIX, STM32L443RCTx, STM32L443RCYx, STM32L443VCIX, STM32L443VCTx
- STM32L451CETx, STM32L451C(C-E)Ux, STM32L451R(C-E)Ix, STM32L451R(C-E)Tx, STM32L451REYx, STM32L451V(C-E)Ix, STM32L451V(C-E)Tx
- STM32L452CETx, STM32L452C(C-E)Ux, STM32L452R(C-E)Ix, STM32L452R(C-E)Tx, STM32L452RETxP, STM32L452REYx, STM32L452V(C-E)Ix, STM32L452V(C-E)Tx
- STM32L462CETx, STM32L462CEUx, STM32L462REIX, STM32L462RETx, STM32L462REYx, STM32L462VEIX, STM32L462VETx
- STM32L471Q(E-G)Ix, STM32L471R(E-G)Tx, STM32L471V(E-G)Tx, STM32L471Z(E-G)Jx, STM32L471Z(E-G)Tx
- STM32L475R(C-E-G)Tx, STM32L475V(C-E-G)Tx
- STM32L476J(E-G)Yx, STM32L476JGYxP, STM32L476M(E-G)Yx, STM32L476Q(E-G)Ix, STM32L476R(C-E-G)Tx, STM32L476V(C-E-G)Tx, STM32L476ZGJx, STM32L476Z(E-G)Tx, STM32L476ZGTxP
- STM32L486JGYx, STM32L486QGIX, STM32L486RGTx, STM32L486VGTx, STM32L486ZGTx
- STM32L496A(E-G)Ix, STM32L496AGIXP, STM32L496Q(E-G)Ix, STM32L496QGIXP, STM32L496R(E-G)Tx, STM32L496RGTxP, STM32L496V(E-G)Tx, STM32L496VGTxP, STM32L496VGYx, STM32L496VGYxP, STM32L496WGYxP, STM32L496Z(E-G)Tx, STM32L496ZGTxP
- STM32L4A6AGIX, STM32L4A6AGIXP, STM32L4A6QGIX, STM32L4A6QGIXP, STM32L4A6RGTx, STM32L4A6RGTxP, STM32L4A6VGTx, STM32L4A6VGTxP, STM32L4A6VGYx, STM32L4A6VGYxP, STM32L4A6ZGTx, STM32L4A6ZGTxP
- STM32L4P5A(E-G)Ix, STM32L4P5AGIXP, STM32L4P5C(E-G)Tx, STM32L4P5CGTxP, STM32L4P5C(E-G)Ux, STM32L4P5CGUxP, STM32L4P5Q(E-G)Ix,

- STM32L4P5QGIXP, STM32L4P5R(E-G)Tx, STM32L4P5RGTxP,  
 STM32L4P5V(E-G)Tx, STM32L4P5VGTxP, STM32L4P5V(E-G)Yx,  
 STM32L4P5VGYxP, STM32L4P5Z(E-G)Tx, STM32L4P5ZGTxP
- STM32L4Q5AGIX, STM32L4Q5AGIXP, STM32L4Q5CGTx, STM32L4Q5CGTxP,  
 STM32L4Q5CGUx, STM32L4Q5CGUxP, STM32L4Q5QGIX, STM32L4Q5QGIXP,  
 STM32L4Q5RGTx, STM32L4Q5RGTxP, STM32L4Q5VGTx, STM32L4Q5VGTxP,  
 STM32L4Q5VGYx, STM32L4Q5VGYxP, STM32L4Q5ZGTx, STM32L4Q5ZGTxP
  - STM32L4Q5AGIX, STM32L4Q5CGTx, STM32L4Q5CGUx, STM32L4Q5QGIX,  
 STM32L4Q5RGTx, STM32L4Q5VGTx, STM32L4Q5VGYx, STM32L4Q5ZGTx
  - STM32L4R5A(G-I)Ix, STM32L4R5Q(G-I)Ix, STM32L4R5V(G-I)Tx,  
 STM32L4R5Z(G-I)Tx, STM32L4R5ZITxP, STM32L4R5Z(G-I)Yx
  - STM32L4R7AIIx, STM32L4R7VITx, STM32L4R7ZITx
  - STM32L4R9A(G-I)Ix, STM32L4R9V(G-I)Tx, STM32L4R9Z(G-I)Jx,  
 STM32L4R9Z(G-I)Tx, STM32L4R9Z(G-I)Yx, STM32L4R9ZIYxP
  - STM32L4S5AIIx, STM32L4S5QIIx, STM32L4S5VITx, STM32L4S5ZITx,  
 STM32L4S5ZIYx
  - STM32L4S7AIIx, STM32L4S7VITx, STM32L4S7ZITx
  - STM32L4S9AIIx, STM32L4S9VITx, STM32L4S9ZIJx, STM32L4S9ZITx,  
 STM32L4S9ZIYx
  - STM32L552C(C-E)Tx, STM32L552CETxP, STM32L552C(C-E)Ux,  
 STM32L552CEUxP, STM32L552MEYxP, STM32L552MEYxQ, STM32L552QEIX,  
 STM32L552Q(C-E)IXQ, STM32L552R(C-E)Tx, STM32L552RETxP,  
 STM32L552RETxQ, STM32L552VETx, STM32L552V(C-E)TxQ, STM32L552ZETx,  
 STM32L552Z(C-E)TxQ
  - STM32L562CETx, STM32L562CETxP, STM32L562CEUx, STM32L562CEUxP,  
 STM32L562MEYxP, STM32L562MEYxQ, STM32L562QEIX, STM32L562QEIXQ,  
 STM32L562RETx, STM32L562RETxP, STM32L562RETxQ, STM32L562VETx,  
 STM32L562VETxQ, STM32L562ZETx, STM32L562ZETxQ
  - STM32MP151(A-C-D-F)AAx, STM32MP151(A-C-D-F)ABx,  
 STM32MP151(A-C-D-F)ACx, STM32MP151(A-C-D-F)ADx,  
 STM32MP153(A-C-D-F)AAx, STM32MP153(A-C-D-F)ABx,  
 STM32MP153(A-C-D-F)ACx, STM32MP153(A-C-D-F)ADx,  
 STM32MP157(A-C-D-F)AAx, STM32MP157(A-C-D-F)ABx,  
 STM32MP157(A-C-D-F)ACx, STM32MP157(A-C-D-F)ADx
  - STM32WB10CCUx
  - STM32WB15CCUx, STM32WB15CCUxE, STM32WB15CCYx
  - STM32WB30CEUxA
  - STM32WB35C(C-E)UxA
  - STM32WB50CGUx
  - STM32WB55C(C-E-G)Ux, STM32WB55R(C-E-G)Vx, STM32WB55V(C-E-G)Qx,  
 STM32WB55V(C-E-G-Y)Yx
  - STM32WB5MMGHx
  - STM32WL54CCUx, STM32WL54JCIX
  - STM32WL55CCUx, STM32WL55JCIX, STM32WL55UCYx
  - STM32WLE4C(8-B-C)Ux, STM32WLE4J(8-B-C)IX
  - STM32WLE5C(8-B-C)Ux, STM32WLE5J(8-B-C)IX, STM32WLE5U(8-B)Yx

### 3.2 STM32CubeMX V6.2.0 release information

- Enhanced the Software Packs feature with secure context support and others
- Added new videos accessible to residents in mainland China
- Added the support for new part numbers in the STM32G0 Series:  
STM32G050C(6-8)Tx, STM32G050F6Px, STM32G050K(6-8)Tx,  
STM32G051C(6-8)Tx, STM32G051C(6-8)Ux, STM32G051F(6-8)Px,  
STM32G051F8Yx, STM32G051G(6-8)Ux, STM32G051K(6-8)Tx,  
STM32G051K(6-8)Ux, STM32G061C(6-8)Tx, STM32G061C(6-8)Ux,  
STM32G061F(6-8)Px, STM32G061F8Yx, STM32G061G(6-8)Ux,  
STM32G061K(6-8)Tx, STM32G061K(6-8)Ux, STM32G0B1C(B-C-E)Tx,  
STM32G0B1C(B-C-E)TxN, STM32G0B1C(B-C)Ux, STM32G0B1C(B-C-E)UxN,  
STM32G0B1KBTx, STM32G0B1KBTxN, STM32G0B1KBUX, STM32G0B1KBUXN,  
STM32G0B1MBTx, STM32G0B1NEYx, STM32G0B1R(B-C-E)IxN,  
STM32G0B1R(B-C-E)Tx, STM32G0B1R(B-C-E)TxN, STM32G0B1VBIX,  
STM32G0B1VBIX, STM32G0C1C(C-E)TxN, STM32G0C1C(C-E)UxN,  
STM32G0C1NEYx, STM32G0C1R(C-E)IxN, STM32G0C1R(C-E)Tx,  
STM32G0C1R(C-E)TxN
- Added the support for new part numbers in the STM32L4+ Series:  
STM32L4Q5AGIXP, STM32L4Q5CGTx, STM32L4Q5CGTxP, STM32L4Q5CGUX,  
STM32L4Q5CGUXP, STM32L4Q5QGIX, STM32L4Q5QGIXP, STM32L4Q5RGTxP,  
STM32L4Q5VGTxP, STM32L4Q5VGYxP, STM32L4Q5ZGTxP
- Added the support for new part numbers in the STM32WB Series:  
STM32WB10CCUX, STM32WB15CCUX, STM32WB15CCUXE, STM32WB15CCYx,  
STM32WB30CEUXA, STM32WB35C(C-E)UXA
- Added the support for Q-SPI in the STM32G471xxxx part number.
- Added the support for two new boards related to the STMWB Series:  
STM32WB5MM-DK and NUCLEO-WB15CC
- Added the support for new features in the STM32F4 Series:
  - SMBUS support
  - Fast mode and Fast mode plus support
- Added the support for SMBUS Fast mode plus for the STM32L4 Series, STM32F4 Series, STM32L0 Series and STM32L5 Series
- Added the support for ICACHE LL in the STM32L5 Series
- Added features improvements for ZigBee® in the STM32WB Series such as cluster callbacks selection and specific parameters configuration for cluster allocation
- Added the STM32Cube Expansion Packages support to the example selector
- Added enhancements for the installation procedure with the JRE™ bundling support
- Added clickable news regarding new feature support on the STM32CubeMX main page
- Added the support for CMSIS Packs in the STM32L5 Series

### 3.2.1 Main fixed issues

**Table 5. Main fixed issues in V6.2.0**

| ID    | Summary                                                                                                                                          |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 83838 | [STM32CubeMX-H7][Power Domain] Wrong power domain for the Cortex <sup>®</sup> -M4.                                                               |
| 85707 | [STM32CubeMX-All][SAI] Make the MCKDIV accessible when NOMCK.                                                                                    |
| 91240 | [STM32CubeMX-Motorcontrol] Import feature incomplete and misleading report message.                                                              |
| 92895 | [MotorControl] Additional middleware include required when using "Generate peripheral initialization as a pair of '.c/.h' files per peripheral". |
| 94134 | [STM32CubeMX-ALL][FATFS] Remove the dependency FS_REENTRANT - FreeRTOS <sup>®</sup> .                                                            |
| 95646 | [STM32CubeMX-All][Keil file] The <FileOption> and <GroupOption> sections should be kept after regenerating the project.                          |
| 95857 | [GitHub][BLE] Update comment for RSSI in the <i>app_ble.c</i> file.                                                                              |
| 96078 | [STM32CubeMX-L4][RCC] Wrong Flash memory latency value - WS must be automatically updated.                                                       |
| 96267 | [STM32CubeMX][ETH] Ethernet peripheral not available in STM32H725REVx MCUs.                                                                      |
| 97276 | [STM32CubeMX-F1][RTC] Wrong asynchronous predivider value.                                                                                       |
| 97418 | [STM32CubeMX-H7][FreeRTOS] Change code in the <i>FreeRTOSConfig.h</i> and <i>FreeRTOSConfig_template.h</i> files.                                |

### 3.2.2 Firmware package versions

[Table 6](#) shows the firmware package versions.

**Table 6. Firmware package versions in V6.2.0**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32F0                                   | V1.11.2 |
| STM32F1                                   | V1.8.3  |
| STM32F2                                   | V1.9.2  |
| STM32F3                                   | V1.11.2 |
| STM32F4                                   | V1.26.0 |
| STM32F7                                   | V1.16.0 |
| STM32G0                                   | V1.4.0  |
| STM32G4                                   | V1.4.0  |
| STM32H7                                   | V1.9.0  |
| STM32L0                                   | V1.12.0 |
| STM32L1                                   | V1.10.2 |
| STM32L4                                   | V1.17.0 |
| STM32L5                                   | V1.4.0  |
| STM32MP1                                  | V1.3.0  |

**Table 6. Firmware package versions in V6.2.0 (continued)**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32WB                                   | V1.11.0 |
| STM32WL                                   | V1.0.0  |

### 3.3 STM32CubeMX V6.1.1 release information

Minor release fixing the issues reported in [Table 7](#).

#### 3.3.1 Main fixed issues

**Table 7. Main fixed issues in V6.1.1**

| ID    | Summary                                             |
|-------|-----------------------------------------------------|
| 96899 | EWARM project generation broken for X-CUBE-TOUCHFX. |
| 97133 | Baud rate calculator issue.                         |

#### 3.3.2 Firmware package versions

[Table 8](#) shows the firmware package versions.

**Table 8. Firmware package versions in V6.1.1**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32F0                                   | V1.11.2 |
| STM32F1                                   | V1.8.3  |
| STM32F2                                   | V1.9.2  |
| STM32F3                                   | V1.11.2 |
| STM32F4                                   | V1.25.2 |
| STM32F7                                   | V1.16.0 |
| STM32G0                                   | V1.4.0  |
| STM32G4                                   | V1.3.0  |
| STM32H7                                   | V1.8.0  |
| STM32L0                                   | V1.12.0 |
| STM32L1                                   | V1.10.2 |
| STM32L4                                   | V1.16.0 |
| STM32L5                                   | V1.3.1  |
| STM32MP1                                  | V1.3.0  |
| STM32WB                                   | V1.10.0 |
| STM32WL                                   | V1.0.0  |

### 3.4 STM32CubeMX V6.1.0 release information

- Added the support for new part numbers in the STM32G0 Series:  
STM32G0B0CETx, STM32G0B0KETx, STM32G0B0RETx, STM32G0B0VETx,  
STM32G0B1C(C-E)Tx, STM32G0B1C(C-E)Ux, STM32G0B1K(C-E)Tx,  
STM32G0B1K(C-E)TxN, STM32G0B1K(C-E)Ux, STM32G0B1K(C-E)UxN,  
STM32G0B1M(C-E)Tx, STM32G0B1R(C-E)Ix, STM32G0B1R(C-E)Tx,  
STM32G0B1V(C-E)Ix, STM32G0B1V(C-E)Tx, STM32G0C1C(C-E)Tx,  
STM32G0C1C(C-E)Ux, STM32G0C1K(C-E)Tx, STM32G0C1K(C-E)TxN,  
STM32G0C1K(C-E)Ux, STM32G0C1K(C-E)UxN, STM32G0C1M(C-E)Tx,  
STM32G0C1R(C-E)Ix, STM32G0C1R(C-E)Tx, STM32G0C1V(C-E)Ix,  
STM32G0C1V(C-E)Tx
- Added the support for two new STM32G0 boards:  
NUCLEO-G0B1RE and STM32G0C1E-EV
- Added the support for new part numbers in the STM32H7 Series:  
STM32H735VGHx, STM32H725V(E-G)Hx
- Added the support for new part numbers in the STM32L4 Series:  
STM32L451CETx, STM32L452CETx and STM32L462CETx
- Added the support for new part numbers in the STM32L0 Series:  
STM32L073CZYx.
- Added the support for the STM32WL Series:
  - Added the support for new part numbers in the STM32WL Series:  
STM32WL54CCUx, STM32WL54JC1x, STM32WL55CCUx, STM32WL55JC1x,  
STM32WL55UCYx, STM32WLE4C(8-B-C)Ux, STM32WLE4J(8-B-C)Ix,  
STM32WLE5C(8-B-C)Ux, STM32WLE5J(8-B-C)Ix, STM32WLE5U(8-B)Yx
  - Added the support for two boards: NUCLEO-WL55JC1 and NUCLEO-WL55JC2
  - Possibility to create a single or dual-core project. For dual-core projects, possibility to assign peripherals to the Cortex<sup>®</sup>-M0+ or Cortex<sup>®</sup>-M4 core
- Added LL support for I<sup>2</sup>S peripheral for the STM32G0 Series, STM32G4 Series, STM32WB Series and STM32WL Series
- Added the support for new features in the STM32MP1 Series:
  - USART Smartcard mode
  - UART RS-485 mode
  - FMC PSRAM support
- Added the support for one new STM32MP1 board: STM32MP157F-DK2
- Added Zigbee<sup>®</sup> support for the STM32WB Series:  
Channel selection, Endpoint selection, Cluster selection and allocation, and Cluster callback management
- Added the possibility for users in Mainland China to access to the video tutorials at [stm32cube.com.cn](http://stm32cube.com.cn)
- Added some search enhancements for the video tutorials feature
- Added the support of software packs for the dual-core STM32H7 Series and for the Cortex<sup>®</sup>-M4 of the STM32WL Series
- Added some enhancements in *Example selector* feature.
- Added the support for one new STM32L4 board: NUCLEO-L4A6ZG
- New access to *External Tools* on STM32CubeMX home page

### 3.4.1 Main fixed issues

**Table 9. Main fixed issues in V6.1.0**

| ID    | Summary                                                                                                                   |
|-------|---------------------------------------------------------------------------------------------------------------------------|
| 73285 | [MX-MP] [USART] Missing modes.                                                                                            |
| 74932 | ADC on STM32G0 and STM32WL must have restricted channel list and sequencer configured first.                              |
| 84914 | [MX-CodeGen] STM32CubeMX <code>tpl_main_c.ftl</code> ( <i>main.c</i> template) does not trap <code>Error_Handler</code> . |
| 89910 | [MX-G0] [Pinout] Remove ADC1_IN11 from PB7.                                                                               |
| 90913 | [MX-L4+] [LPUART] Wrong code generated                                                                                    |
| 90919 | [MX] [SAI] <i>Synchronous Slave</i> mode always grayed and not available.                                                 |
| 91032 | [MX-H7] [LWIP] Generation errors with <i>ethernetif.c</i> .                                                               |
| 91276 | [MX-WB] [RCC] WS grayed and stuck on 3.                                                                                   |
| 91939 | [MX-F1] [ADC3] Missed code related to regular conversion parameter.                                                       |
| 92551 | [MX-G4] [TIM] Code generation for TIMx encoder mode with remap issue.                                                     |
| 92818 | [MX-NVIC] All IRQ priorities must be set automatically.                                                                   |

### 3.4.2 Firmware package versions

[Table 10](#) shows the firmware package versions.

**Table 10. Firmware package versions in V6.1.0**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32F0                                   | V1.11.1 |
| STM32F1                                   | V1.8.3  |
| STM32F2                                   | V1.9.2  |
| STM32F3                                   | V1.11.1 |
| STM32F4                                   | V1.25.2 |
| STM32F7                                   | V1.16.0 |
| STM32G0                                   | V1.4.0  |
| STM32G4                                   | V1.3.0  |
| STM32H7                                   | V1.8.0  |
| STM32L0                                   | V1.12.0 |
| STM32L1                                   | V1.10.2 |
| STM32L4                                   | V1.16.0 |
| STM32L5                                   | V1.3.1  |
| STM32MP1                                  | V1.3.0  |
| STM32WB                                   | V1.10.0 |
| STM32WL                                   | V1.0.0  |

## 3.5 STM32CubeMX V6.0.1 release information

Minor release fixing the issues reported in [Table 11](#).

### 3.5.1 Fixed issues

**Table 11. Main fixed issues in V6.0.1**

| ID    | Summary                                                                                     |
|-------|---------------------------------------------------------------------------------------------|
| 90615 | Unexpected project data deletion when some utilities are used.                              |
| 90636 | IRQ priorities for some "Non-System" IPs are set to minimal values after project migration. |
| 90934 | Some boards do not boot after enabling FreeRTOS™.                                           |

### 3.5.2 Firmware package versions

[Table 12](#) shows the firmware package versions.

**Table 12. Firmware package versions in V6.0.1**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32F0                                   | V1.11.0 |
| STM32F1                                   | V1.8.0  |
| STM32F2                                   | V1.9.0  |
| STM32F3                                   | V1.11.0 |
| STM32F4                                   | V1.25.0 |
| STM32F7                                   | V1.16.0 |
| STM32G0                                   | V1.3.0  |
| STM32G4                                   | V1.3.0  |
| STM32H7                                   | V1.8.0  |
| STM32L0                                   | V1.11.2 |
| STM32L1                                   | V1.10.0 |
| STM32L4                                   | V1.16.0 |
| STM32L5                                   | V1.3.0  |
| STM32MP1                                  | V1.2.0  |
| STM32WB                                   | V1.8.0  |

### 3.6 STM32CubeMX V6.0.0 release information

- Added the support of new part numbers in the STM32G4 Series:  
STM32G491K(C-E)Ux, STM32G491C(C-E)Ux, STM32G491C(C-E)Tx,  
STM32G491REYx, STM32G491R(C-E)Tx, STM32G491R(C-E)Ix,  
STM32G491M(C-E)Sx, STM32G491M(C-E)Tx, STM32G491V(C-E)Tx,  
STM32G4A1KEUx, STM32G4A1CEUx, STM32G4A1CETx, STM32G4A1REYx,  
STM32G4A1RETx, STM32G4A1REIx, STM32G4A1MESx, STM32G4A1METx, and  
STM32G4A1VETx
- Added the support of new part numbers in the STM32H7 Series:  
STM32H723x, STM32H725x, STM32H730x, STM32H733x and STM32H735x
- Added the support of one new part number in the STM32F4 Series: STM32F479IIHx
- Added the support of three new part numbers in the STM32F7 Series:  
STM32F723V(C-E)Tx and STM32F733VETx
- Added the support of new part numbers in the STM32L0 Series:  
STM32L031C4Ux, STM32L041C6Ux, STM32L051C(6-8)Ux, STM32L052C(6-8)Ux,  
STM32L053C(6-8)Ux, STM32L062C8Ux, STM32L063C8Ux, STM32L071C8Ux,  
STM32L082KBx and STM32L083RBTx
- Added the support of new part numbers in the STM32L1 Series:  
STM32L162QCHx, STM32L162VDYxX and STM32L162ZCTx
- Added the support of new part numbers in the STM32L4 Series:  
STM32L496VGTxP, STM32L496VGyP and STM32L4A6VGTxP
- Added the support of one new part number in the STM32WB Series:  
STM32WB55VYYx
- Added the support of new boards: NUCLEO-G491RE, STM32H735G-DK,  
NUCLEO-H723ZG, NUCLEO-WB55RG, B-L462E-CELL1, B-L4S5I-IOT01 and  
STM32MP157F-EV1
- Added the video tutorials feature to access video tutorials on various STM32CubeMX features
- Added the support of an Example Selector that enables example filtering among several parameters
- Added the support of PCC for the STM32L5xQ part numbers with SMPS
- Software Packs:
  - User interface enhancements with simplified access to Software Pack installation and component selection from the *Pinout&Configuration* view and to Software Pack documentation from the *Component Selector* window
  - Implementation aligned with Arm® CMSIS-Pack 1.6.3 revision
- Added a graphical tool, named STM32PackCreator and installed with STM32CubeMX in the *Utilities* folder. It allows pack developers to create Software Packs and STM32Cube Expansion packages enhanced for STM32CubeMX. It can be launched from the *ST Tools* tab found in the STM32CubeMX *Tools* view.

### 3.6.1 Fixed issues

**Table 13. Main fixed issues in V6.0.0**

| ID    | Summary                                                                        |
|-------|--------------------------------------------------------------------------------|
| 69745 | [MX-L4][Pinout] Wrong pinout name.                                             |
| 70599 | [MX-L0][MCU] Add STM32L082KB in STM32CubeMX.                                   |
| 71585 | [MX-I2C] Split I <sup>2</sup> C DeInit pins: SCL and SDA.                      |
| 75137 | [MX-OPAMP] Add new PGA mode.                                                   |
| 79013 | [MX-ALL] changing call order in <i>Advanced Settings</i> tab cannot be saved.  |
| 79732 | [MX-ALL][LPUART/UART/USART] Missing 7-bit wake-up address.                     |
| 80139 | [MX-HSEM] HSEM LL driver not selectable in <i>Driver Selector</i> .            |
| 81178 | [MX-H7][DEBUG][MBEDTLS] Multiple tools write to the same file <i>debug.c</i> . |
| 84813 | [MX-F4][CLOCK] PLLI2SQ is missing from PLLI2S initialization.                  |
| 85919 | [MX-G4][IWDG] Missed window option and wrong code generated.                   |

### 3.6.2 Firmware package versions

[Table 14](#) shows the firmware package versions.

**Table 14. Firmware package versions in V6.0.0**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32F0                                   | V1.11.0 |
| STM32F1                                   | V1.8.0  |
| STM32F2                                   | V1.9.0  |
| STM32F3                                   | V1.11.0 |
| STM32F4                                   | V1.25.0 |
| STM32F7                                   | V1.16.0 |
| STM32G0                                   | V1.3.0  |
| STM32G4                                   | V1.3.0  |
| STM32H7                                   | V1.8.0  |
| STM32L0                                   | V1.11.2 |
| STM32L1                                   | V1.10.0 |
| STM32L4                                   | V1.16.0 |
| STM32L5                                   | V1.3.0  |
| STM32MP1                                  | V1.2.0  |
| STM32WB                                   | V1.8.0  |

## 3.7 STM32CubeMX V5.6.1 release information

Minor release fixing the issues reported in [Table 15](#).

### 3.7.1 Fixed issues

Table 15. Fixed issues in V5.6.1

| ID    | Summary                                                                               |
|-------|---------------------------------------------------------------------------------------|
| 79013 | [MX-ALL] Changing the call order in the <i>Advanced Settings</i> tab cannot be saved. |
| 81455 | [STM32MP1] Not possible to save DDR tuning configuration.                             |

### 3.7.2 Firmware package versions

[Table 16](#) shows the firmware package versions.

Table 16. Firmware package versions in V5.6.1

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32F0                                   | V1.11.0 |
| STM32F1                                   | V1.8.0  |
| STM32F2                                   | V1.9.0  |
| STM32F3                                   | V1.11.0 |
| STM32F4                                   | V1.25.0 |
| STM32F7                                   | V1.16.0 |
| STM32G0                                   | V1.3.0  |
| STM32G4                                   | V1.2.0  |
| STM32H7                                   | V1.7.0  |
| STM32L0                                   | V1.11.2 |
| STM32L1                                   | V1.9.0  |
| STM32L4                                   | V1.15.1 |
| STM32L5                                   | V1.2.0  |
| STM32MP1                                  | V1.2.0  |
| STM32WB                                   | V1.5.0  |

### 3.8 STM32CubeMX V5.6.0 release information

- Added the support of new part numbers in the STM32L0 Series: STM32L071C(B-Z)Ux, STM32L081CZUx, STM32L072C(B-Z)Ux, STM32L082CZUx, STM32L073C(B-Z)Ux, STM32L083CZUx, and STM32L073CZUx
- Added the support of the new 800 MHz capable part numbers in the STM32MP1 Series: STM32MP151DAD, STM32MP151FAD, STM32MP151DAC, STM32MP151FAC, STM32MP151DAB, STM32MP151FAB, STM32MP151DAA, STM32MP151FAA, STM32MP153DAD, STM32MP153FAD, STM32MP153DAC, STM32MP153FAC, STM32MP153DAB, STM32MP153FAB, STM32MP153DAA, STM32MP153FAA, STM32MP157DAD, STM32MP157FAD, STM32MP157DAC, STM32MP157FAC, STM32MP157DAB, STM32MP157FAB, STM32MP157DAA, and STM32MP157FAA
- Added the support of new part numbers in the STM32WB Series: STM32WB30CEUx, STM32WB35CCUx, STM32WB35CCYx, STM32WB35CEUx and STM32WB35CEYx
- Added the support of OCTOSPI muxed mode for the STM32H7 Series and STM32L4+ Series
- Added the support of linker files for 1-Mbyte Flash part numbers for STM32H7Axxxxx microcontrollers
- Added the support of DTS for STM32H7Axxxxx and STM32H7Bxxxxx part numbers
- Added the support of LL for PWR for the STM32H7 Series
- PCC: added the support of a new *Sequence Generator* feature to quickly generate two steps in high- and low-power modes. A default sequence is proposed in Run and Stop modes
- Added the support of Additional Software (Software Packs) for the STM32L5 Series, only for Non-TrustZone<sup>®</sup> activated projects (TZEN=0)
- Added the support of two new STM32Cube Expansion Packages: X-CUBE-SUBG2 and X-CUBE-ALGOBUILD
- Updated some STM32Cube Expansion Packages: X-CUBE-BLE1, X-CUBE-GNSS1, X-CUBE-MEMS1, and X-CUBE-NFC4

### 3.8.1 Fixed issues

**Table 17. Main fixed issues in V5.6.0**

| ID    | Summary                                                                                |
|-------|----------------------------------------------------------------------------------------|
| 62299 | STM32CubeMX cannot select the STM32L4R9ZIY6PTR MCU.                                    |
| 74936 | [MX-WB][RF] Clarification configuration.                                               |
| 76533 | [MX-G0] Missing LD4 in the NUCLEO-G070RB template of the <i>Device Configuration</i> . |
| 77709 | [MX-MP][CLOCK] DDRPREFM clock shows error for 533 MHz.                                 |
| 78818 | [MX-ALL][Fatfs] Wrong <code>ff_free</code> define.                                     |
| 78859 | [MX-G0][I2C] No SDA signal.                                                            |
| 79013 | [MX-ALL] Changing call order in <i>Advanced Settings</i> tab cannot be saved.          |
| 79596 | [MX-RCC] Wrong exported RCC configuration with LL drivers.                             |
| 79866 | [MX-H7][CLOCK_FDCAN] Frequency limitation.                                             |
| 80015 | [MX-H7][USB] USBH_USE_OS always disabled.                                              |
| 80234 | [MX-RCC] Backup domain enable not added before LSE drive configuration for STM32WB.    |

### 3.8.2 Firmware package versions

[Table 18](#) shows the firmware package versions.

**Table 18. Firmware package versions in V5.6.0**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32F0                                   | V1.11.0 |
| STM32F1                                   | V1.8.0  |
| STM32F2                                   | V1.9.0  |
| STM32F3                                   | V1.11.0 |
| STM32F4                                   | V1.25.0 |
| STM32F7                                   | V1.16.0 |
| STM32G0                                   | V1.3.0  |
| STM32G4                                   | V1.2.0  |
| STM32H7                                   | V1.7.0  |
| STM32L0                                   | V1.11.2 |
| STM32L1                                   | V1.9.0  |
| STM32L4                                   | V1.15.1 |
| STM32L5                                   | V1.2.0  |
| STM32MP1                                  | V1.2.0  |
| STM32WB                                   | V1.5.0  |

### 3.9 STM32CubeMX V5.5.0 release information

- Removed TouchGFX, STemWin, Graphics Selector and Simulator supports.  
The new solution based on Expansion Pack X-CUBE-TOUCHGFX is available.
- Added the support of new part numbers in the STM32H7 Series:  
STM32H7A3x, STM32H7B3x, STM32H750IBTx, STM32H750ZBTx and STM32H7B0xx.
- Added the support of new part numbers in the STM32L4+ Series:  
STM32L4P5x and STM32L4Q5x.
- Added the support of LL code generation for the STM32H7 Series.
- Added the support of the STM32L5 Series:
  - Added the support of STM32L5 Series devices: STM32L55xx, STM32L56xx.
  - Added the support of boards based on devices in the STM32L5 Series:  
NUCLEO-L552ZE-Q, STM32L552E-EV and STM32L562E-DK.
  - Possibility to create projects with no TrustZone® security (user Option Bit TZEN=0 with legacy project structure) or with TrustZone® security (user Option Bit TZEN=1 with new project structure for secure and non-secure images).
  - For TrustZone® projects (TZEN=1), in order to match the default IDAU/SAU and secure and non-secure linker files, ensure these Option Bytes are set with STM32CubeProgrammer (STM32CubeProg) prior to download and execution:
    - TZEN = 1: system with TrustZone®-M enabled.
    - DBANK = 1: dual-bank mode.
    - SECWM1\_PSTRT=0x0 and SECWM1\_PEND=0x7F  
All 128 pages of internal Flash Bank1 set as secure.
    - SECWM2\_PSTRT=0x1 and SECWM2\_PEND=0x0  
No page of internal Flash Bank2 set as secure, hence Bank2 non-secure.
  - Possibility to assign peripheral or middleware to secure (CM33S) or non-secure (CM33NS) context.
  - Possibility to secure RCC resources in the *Clock Configuration* tab. Securable resources are highlighted with a key-shaped icon:
    - Right click on securable resource to activate or deactivate the security.
    - The lock icon locks all secure resources: no more possible to change the configuration even with the automatic clock issues solver.
- Added the support of new boards:  
STEVAL-IDP005V1, STEVAL-IDP005V2 and STEVAL-STWINKT1.
- User Interface updates:
  - Added filters and preconfigured views in system view: by context execution (secure/non secure, core 1/core 2), context initialization, or power domain.
  - Add an option in the GPIO configuration panel to have an overview of all configured I/Os in the same table.

### 3.9.1 Fixed issues

**Table 19. Main fixed issues in V5.5.0**

| ID    | Summary                                                                                        |
|-------|------------------------------------------------------------------------------------------------|
| 67598 | [MX-F4][USART] Add Open Drain under GPIO mode.                                                 |
| 70790 | [MX-Code Generation] Incorrect OPAMP number assigned.                                          |
| 73041 | [MX-L1][I2S] Wrong HAL_RCC_SPIx_CLK_Enable call.                                               |
| 73371 | [MX-MP][USART] Hardware flow control (RS485) not available.                                    |
| 73653 | Moving a project from v5.2.0 to v5.3.0 without migrating leads to corrupted dts.               |
| 73741 | [MX-H7][GPIO] User label not generated.                                                        |
| 73888 | [MX-G4][ADC_LL] Wrong line of code generated <i>TriggerSource</i> .                            |
| 74309 | [MX-FreeRTOS] <code>configCPU_CLOCK_HZ</code> is incorrect for Cortex®-M4.                     |
| 75131 | [MX-G0][USART] Missed configuration pin in the code generation and not able to configure pins. |
| 75262 | [MX-G4/G0][UCPD] The dead-battery signals configuration is not saved.                          |

### 3.9.2 Firmware package versions

[Table 20](#) shows the firmware package versions.

**Table 20. Firmware package versions in V5.5.0**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32F0                                   | V1.11.0 |
| STM32F1                                   | V1.8.0  |
| STM32F2                                   | V1.8.0  |
| STM32F3                                   | V1.11.0 |
| STM32F4                                   | V1.24.2 |
| STM32F7                                   | V1.15.0 |
| STM32G0                                   | V1.3.0  |
| STM32G4                                   | V1.1.0  |
| STM32H7                                   | V1.6.0  |
| STM32L0                                   | V1.11.2 |
| STM32L1                                   | V1.9.0  |
| STM32L4                                   | V1.15.0 |
| STM32L5                                   | V1.0.0  |
| STM32MP1                                  | V1.1.1  |
| STM32WB                                   | V1.4.0  |

### 3.10 STM32CubeMX V5.4.0 release information

- Added the support of the STM32L5 Series (beta support)<sup>(a)</sup>:
  - Possibility to create projects with no TrustZone® security (user Option Byte  $TZEN = 0$  with legacy project structure) or with TrustZone® security ( $TZEN = 1$  with new project structure for secure and non-secure images).  
*For TrustZone® projects ( $TZEN=1$ ), in order to match default IDAU/SAU and secure and non-secure linker files, special Option Bytes setting is required.*
  - Possibility to assign peripheral or middleware to secure (CM33S) or non-secure (CM33NS) context.
  - Possibility to secure RCC resources via the *Clock Configuration* tab.  
*Securable resources are highlighted with a "key" icon.*
  - Support of microcontrollers in the STM32L5 Series: STM32L552CCTx, STM32L552CETx, STM32L552CETxP, STM32L552CCUx, STM32L552CEUx, STM32L552CEUxP, STM32L552MEYxP, STM32L552MEYxQ, STM32L552QEIX, STM32L552QEIXP, STM32L552QCIXQ, STM32L552QEIXQ, STM32L552RCTx, STM32L552RETx, STM32L552RETxP, STM32L552RETxQ, STM32L552VETx, STM32L552VCTxQ, STM32L552VETxQ, STM32L552ZETx, STM32L552ZCTxQ, STM32L552ZETxQ, STM32L562CETx, STM32L562CETxP, STM32L562CEUx, STM32L562CEUxP, STM32L562MEYxP, STM32L562MEYxQ, STM32L562QEIXP, STM32L562QEIXQ, STM32L562RETx, STM32L562RETxP, STM32L562VETx, STM32L562VETxQ, STM32L562ZETx, STM32L562ZETxQ.
  - Added the support of boards based on devices in the STM32L5 Series: NUCLEO-L552ZE-Q, STM32L552E-EV and STM32L562E-DK.
- STM32MP1 updates:
  - Support of the new project structure aligned with dual-core constraints with no backwards compatibility (refer to [Section 2.1: Known limitations](#) for information about the compatibility break).
  - Added IAR™ EWARM to the list of supported IDEs for the STM32MP1 Series.
  - Added Keil® to the list of supported IDEs for the STM32MP1 Series.
  - Added STM32CubeIDE to the list of supported IDEs for STM32MP1 series.
  - Added the support of LL code generation for the STM32MP1 Series for some peripherals: ADC, GPIO, RCC, USART, SYS, DMA, LPTIM, TIM, SPI, WWDG, PWR, and I<sup>2</sup>C.
- STM32CubeIDE updates
  - Added the support of the STM32MP1 Series.
  - Added the support of the STM32H7 Series.
  - Added the support of the STM32L5 Series.
  - Non-under-root projects can be imported.
- Additional software updates:
  - CLI for pack install.
  - Project migration.

a. Beta support only. Contact the local STMicroelectronics sales office or distributor (refer to [https://www.st.com/content/st\\_com/en/contact-us.html](https://www.st.com/content/st_com/en/contact-us.html)) to get STM32CubeL5 MCU Package V0.7.0.

- Code generation:
  - Split between system clock and peripheral clock code generation: deployment done for the STM32MP1 Series and STM32L5 Series.
- User Interface updates:
  - Split between IDE list and version list for easier selection.
- Install updates:
  - *Install* and *Uninstall* are signed for the Windows® operating system.
- Added the support of the STM32WBx0 Value Line: STM32WB50CGUx.
- Added the support of new devices in the STM32WB Series: STM32WB55VCYx, STM32WB55VEYx, STM32WB55VGyX.
- Added the support of new devices for the STM32L4 Series: STM32L471ZEJx, STM32L471ZGJx, STM32L4A6AGIxP, STM32L4A6QGIXP, STM32L4A6RGTXP, STM32L4A6VGTx, STM32L4A6ZGTxP and STM32L4A6VGYxP.

### 3.10.1 Fixed issues

**Table 21. Main fixed issues in V5.4.0**

| ID    | Summary                                                                                                                                |
|-------|----------------------------------------------------------------------------------------------------------------------------------------|
| 33799 | Enable/disable <code>ARPE</code> and <code>OCxPE</code> bits from STM32CubeMX interface.                                               |
| 52366 | STM32F412 FSMC PB7 functionality: STM32CubeMX vs. datasheet discrepancy.                                                               |
| 55016 | DISCO L475 IOT (B-L475E-IOT01A): WI-FI® pins in board description.                                                                     |
| 66665 | [MX-MP][PINOUT] Pinout changes not updated.                                                                                            |
| 67080 | STM32CubeMX sometimes displays wrong pin number when creating PWM timer on Timer 1 channel 3N.                                         |
| 68063 | [MX-L4][TIM2-GPIO] Line missed in code generation.                                                                                     |
| 69542 | [MX-USB]: USB pins set wrongly as alternate functions.                                                                                 |
| 69941 | [MX-SAI]: Synchronous slave option is grayed out (in <code>SAI_B</code> ) when <code>SAI_A</code> is configured as asynchronous slave. |
| 70244 | [MX-USB]: <code>USB_OTG_HS</code> PHY options.                                                                                         |
| 70459 | [MX-F4][ADC] Cannot enable "DMA Continuous Requests".                                                                                  |
| 70965 | [MX-L4][CLOCK] Wrong minimum frequency for ADC.                                                                                        |

### 3.10.2 Firmware package versions

*Table 22* shows the firmware package versions.

**Table 22. Firmware package versions in V5.4.0**

| STM32Cube firmware and updated middleware | Version               |
|-------------------------------------------|-----------------------|
| STM32F0                                   | V1.11.0               |
| STM32F1                                   | V1.8.0                |
| STM32F2                                   | V1.8.0                |
| STM32F3                                   | V1.11.0               |
| STM32F4                                   | V1.24.1               |
| STM32F7                                   | V1.15.0               |
| STM32G0                                   | V1.3.0                |
| STM32G4                                   | V1.1.0                |
| STM32H7                                   | V1.5.0                |
| STM32L0                                   | V1.11.2               |
| STM32L1                                   | V1.9.0                |
| STM32L4                                   | V1.14.0               |
| STM32L5                                   | V0.7.0 <sup>(1)</sup> |
| STM32MP1                                  | V1.1.0                |
| STM32WB                                   | V1.3.0                |

1. Beta support only. Contact the local STMicroelectronics sales office or distributor (refer to [https://www.st.com/content/st\\_com/en/contact-us.html](https://www.st.com/content/st_com/en/contact-us.html)) to get STM32CubeL5 MCU Package V0.7.0.

### 3.11 STM32CubeMX V5.3.0 release information

- Added the support of mbedTLS in the STM32H7 Series
- Added the support of CMSIS RTOS v2 in the STM32H7, STM32F4, STM32F7, STM32G0, STM32G4, STM32L0, STM32L1, STM32L4, STM32L4+, and STM32WB Series
- Added the support of the B-G474E-DPOW1 board for the STM32G4 Series
- Added the support of the STM32MP157A-DK1 board for the STM32MP1 Series
- Added the support of the STEVAL-MKSBOX1V1 board for the STM32L4+ Series
- Added the support of new devices for the STM32G4 Series: STM32G441MBTx, STM32G483CETx, STM32G483CEUx, STM32G483METx, STM32G483MEYx, STM32G483QETx, STM32G483RETx, STM32G483VEHx, STM32G483VELx, and STM32G483VETx
- *MCU Selector*: keep all filters displayed even if not available to avoid UI refresh
- *Additional Software* new user interface
  - 4 sections: *Filters*, *Components dependencies*, *Details and warnings*, and *Packs*
  - Pack versions are shown in one element (one version is displayed for each pack, user can switch from a version to another)
  - New filters implemented:
    - Show only favorite packs
    - Show only selected components
    - See only installed packs
    - See only compatible packs
  - Pack migration: *Details and Warnings* section  
Users can migrate pack version if possible
- New firmware package versions supported mainly for middleware updates and new examples for the STM32G4 Series and STM32WB Series

#### 3.11.1 Fixed issues

**Table 23. Main fixed issues in V5.3.0**

| ID    | Summary                                                                                                    |
|-------|------------------------------------------------------------------------------------------------------------|
| 65156 | [MX-DFSDM]: DFSDM clock in STM32H743 clock tree too limited.                                               |
| 65808 | [MX-G0][ADC]: ADC configuration can not be done with customer file.                                        |
| 65919 | [MX-F7][USB]: <i>Speed setting</i> for <i>USB_OTG_HS Device</i> missed.                                    |
| 66037 | [MX-Graphics]: Fuchsia cross appears when we choose <i>Number of Layers: 2 layers</i> .                    |
| 66183 | [MX-F7][QSPI]: Add <i>disabled</i> mode to dual-Flash parameter.                                           |
| 66502 | [MX-L4+][SYSTICK] [LL]: <code>SysTick</code> is disabled after calling <code>SystemClock_Config()</code> . |
| 66639 | [MX-G4][ADC]: Incorrect number of ADC.                                                                     |
| 66652 | [MX-F3][ADC-LL]: Wrong code gen in the configuration for ADC LL.                                           |
| 66835 | [MX-I2S-C.GEN]: Full-duplex mode missed in the code gen.                                                   |
| 67680 | [MX-G0][UCPD]: Add function for disabling <i>Dead battery support</i> .                                    |

### 3.11.2 Firmware package versions

[Table 24](#) shows the firmware package versions.

**Table 24. Firmware package versions in V5.3.0**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32F0                                   | V1.10.0 |
| STM32F1                                   | V1.8.0  |
| STM32F2                                   | V1.8.0  |
| STM32F3                                   | V1.10.0 |
| STM32F4                                   | V1.24.1 |
| STM32F7                                   | V1.15.0 |
| STM32G0                                   | V1.3.0  |
| STM32G4                                   | V1.1.0  |
| STM32H7                                   | V1.5.0  |
| STM32L0                                   | V1.11.2 |
| STM32L1                                   | V1.9.0  |
| STM32L4                                   | V1.14.0 |
| STM32MP1                                  | V1.0.1  |
| STM32WB                                   | V1.2.0  |

## 3.12 STM32CubeMX V5.2.1 release information

- Added the support of PDM2PCM middleware for the STM32H7 Series
- For the STM32H7 Series, one SYS time base per core is available

### 3.12.1 Fixed issues

**Table 25. Main fixed issues in V5.2.1**

| ID    | Summary                                                                                          |
|-------|--------------------------------------------------------------------------------------------------|
| 43174 | [STM32H7 Nucleo USB CDC]:<br>Missing call to <code>HAL_PWREx_EnableUSBVoltageDetector()</code> . |
| 45095 | IAR™ compile warnings for <i>cmsis_jar.h</i> STM32H7 dual-core cube-generated project.           |
| 63794 | [STM32CubeMX]: Missing DSP <i>arm_bitreversal2.S</i> file in project generation.                 |
| 64226 | [STM32CubeMX-FMC]: Suggest to add warning tips in case of memory access conflict.                |
| 64293 | [SDIO] [STM32H7]: Overwriting <code>USE_SD_TRANSCEIVER</code> macro.                             |
| 66418 | [STM32CubeMX-STM32H7]: Clock frequency cannot be set to 480 MHz.                                 |
| 66704 | [STM32CubeMX-PDM2PCM]: Wrong library included in generated project, wrong stub.                  |

### 3.12.2 Firmware package versions

*Table 26* shows the firmware package versions.

**Table 26. Firmware package versions in V5.2.1**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32F0                                   | V1.10.0 |
| STM32F1                                   | V1.7.0  |
| STM32F2                                   | V1.7.0  |
| STM32F3                                   | V1.10.0 |
| STM32F4                                   | V1.24.1 |
| STM32F7                                   | V1.15.0 |
| STM32G0                                   | V1.2.0  |
| STM32G4                                   | V1.0.0  |
| STM32H7                                   | V1.4.0  |
| STM32L0                                   | V1.11.2 |
| STM32L1                                   | V1.9.0  |
| STM32L4                                   | V1.14.0 |
| STM32MP1                                  | V1.0.1  |
| STM32WB                                   | V1.1.0  |

### 3.13 STM32CubeMX V5.2.0 release information

- Added the support of new dual-core part numbers in the STM32H7 Series:
  - Added the support of dual-core configuration, code, and project generation: context assignment (CM4, CM7, both CM4 and CM7 with initializer), Boot0 mode support (both CPUs booting at once), resource manager, and power domains (D1, D2 and D3).
  - Added the support of new part numbers: STM32H74x and STM32H75x.
  - Added the support of the PCC feature, examples, and  $T_j$  versus  $T_a$  calculation for the dual-core devices in the STM32H7 Series.
  - Added the support of new boards: STM32H747I-DISCO, STM32H747I-DISC1, STM32H745I-DISCO, NUCLEO-H745ZI-Q, NUCLEO-H755ZI-Q, NUCLEO-H743ZI2, NUCLEO-H753ZI, STM32H743I-EVAL2, STM32H753I-EVAL2, STM32H747I-EVAL, and STM32H757I-EVAL.
- Added the support of new single-core part numbers in the STM32H7 Series: STM32H742x.
- Added the support of a new board for the STM32H7 Value Line: STM32H750B-DK.
- Added the support of new devices with 64 Kbytes of Flash memory in the STM32G0 Series with examples in STM32CubeMX format available in the *STM32Cube\_FW\_G0\_1.2.0* STM32CubeG0 MCU Package.
  - Added the support of new part numbers: STM32G030x, STM32G031x and STM32G041x.
  - Added the support of the extended-mode feature for SO8, TSSOP20 and WLCSP18 packages. This feature allows multiple configurations of parallel IOs.
- Added the support of the STM32G4 Series with first examples in STM32CubeMX format available in the *STM32Cube\_FW\_G4\_1.4.0* STM32CubeG4 MCU Package.
  - Added the support of devices in the STM32G4 Series: STM32G431x, STM32G441x, STM32G471x, STM32G473x, STM32G474x, STM32G484x, and STM32GBK1CBT.
  - Added the support of boards based on devices in the STM32G4 Series: STM32G474E-EVAL, STM32G484E-EVAL, STM32G474E-EVAL1, NUCLEO-G474RE, NUCLEO-G431RB and NUCLEO-G431KB.
- New toolchain support: STM32CubeIDE.
- Added the support of PCC examples for the STM32MP1 Series.
- Integration of the Cross Selector tool with both STMicroelectronics and competitors data.

#### 3.13.1 Fixed issues

**Table 27. Main fixed issues in V5.2.0**

| ID    | Summary                                                                                              |
|-------|------------------------------------------------------------------------------------------------------|
| 57095 | Calling <code>HAL_PWR_EnableBkUpAccess()</code> is only done for the STM32F1 Series.                 |
| 57986 | Bug in STM32CubeMX / STM32F0 LL Library internal ADC channel.                                        |
| 58265 | [MX-Code Generation]: Release build not defining compiler.                                           |
| 62052 | [MX-GUI] STM32CubeMX reset after dragging the chip in pinout view with Chinese translator activated. |

**Table 27. Main fixed issues in V5.2.0 (continued)**

| ID    | Summary                                                                |
|-------|------------------------------------------------------------------------|
| 62446 | [MX-F7][SAI] Internal synchronization does not work.                   |
| 63612 | [MX-Graphics]: GFXSimulator warning is displayed                       |
| 63747 | [MX-TIM] TIM14 for STM32G0 does not support the input clearing source. |
| 63762 | [MX-CAN] CAN1 clock enable to be generated if only CAN2 is enabled.    |
| 63768 | [MX-SPI] Cannot configure CRC poly.                                    |

### 3.13.2 Firmware package versions

[Table 28](#) shows the firmware package versions.

**Table 28. Firmware package versions in V5.2.0**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32F0                                   | V1.10.0 |
| STM32F1                                   | V1.7.0  |
| STM32F2                                   | V1.7.0  |
| STM32F3                                   | V1.10.0 |
| STM32F4                                   | V1.24.1 |
| STM32F7                                   | V1.15.0 |
| STM32G0                                   | V1.2.0  |
| STM32G4                                   | V1.0.0  |
| STM32H7                                   | V1.4.0  |
| STM32L0                                   | V1.11.2 |
| STM32L1                                   | V1.9.0  |
| STM32L4                                   | V1.14.0 |
| STM32MP1                                  | V1.0.1  |
| STM32WB                                   | V1.1.0  |

### 3.14 STM32CubeMX V5.1.0 release information

Added the support of the STM32WB Series with first examples in MX format available in the *STM32Cube\_FW\_WB\_1.0.0* STM32CubeWB MCU Package.

Added the support of the STM32WB boards based on the STM32WB55xx devices.

Added the support of the PCC Bluetooth® Low Energy feature for the STM32WB Series.

Renamed USB middleware to *USB\_Device* for the STM32WB Series only.

Added the support of the STM32MP1 Series: STM32MP151xx, STM32MP153xx, and STM32MP157xx.

Added the support of some STM32MP157 boards: STM32MP157A-EV1, STM32MP157C-EV1, and STM32MP157C-DK2.

Added the support of the PCC feature for the STM32MP1 Series, and Tj versus Ta calculation.

Added the support of the DDR Test Suite Tool for the STM32MP1 Series.

Performance enhancements for improved user experience.

User interface updates, especially regarding fonts, breadcrumb, progress bars, and hourglass.

Added the support of USBPD middleware for the STM32G0 Series.

Added the support of new middleware versions for the STM32F4 Series and STM32F7 Series.

Added the support of a new board for the STM32H750 Value line: STM32H750B-DK Discovery kit.

Graphics updates: TrueSTUDIO® is supported by TouchGFX Designer.

New EXTI driver is included when available in the MCU Package.

#### 3.14.1 Fixed issues

**Table 29. Main fixed issues in V5.1.0**

| ID    | Summary                                                                                     |
|-------|---------------------------------------------------------------------------------------------|
| 46874 | [MX-Clock] include frac formulas in frequency calculation when PLL frac is enabled.         |
| 51206 | [MX-TIM] Break filter to be removed for TIM15, 16 and 17.                                   |
| 53264 | [MX-Pinout][STM32H750IBKx] G10 must be VSS and not VDD.                                     |
| 55690 | [MX-Board] Wrong configuration of special PHY reg for STM32F746 Discovery.                  |
| 56760 | RCC for LTDC clock of STM32L4R9.                                                            |
| 56828 | [MX-ETH]PHY DP83848 should support also RMII mode.                                          |
| 56999 | FreeRTOS™ initialization sequence.                                                          |
| 57348 | [MX-LWIP] Exception generated due to undefined parameter in the ftl.                        |
| 57520 | [MX-SPI] Missing <i>Alternate Function Open Drain</i> in SPI configuration mode.            |
| 58043 | [MX-TouchSensing] Missing user label in function <code>MyTKeys_ErrorStateProcess()</code> . |

### 3.14.2 Firmware package versions

[Table 30](#) shows the firmware package versions.

**Table 30. Firmware package versions in V5.1.0**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32F0                                   | V1.9.0  |
| STM32F1                                   | V1.7.0  |
| STM32F2                                   | V1.7.0  |
| STM32F3                                   | V1.10.0 |
| STM32F4                                   | V1.24.0 |
| STM32F7                                   | V1.15.0 |
| STM32G0                                   | V1.1.0  |
| STM32H7                                   | V1.3.2  |
| STM32L0                                   | V1.11.1 |
| STM32L1                                   | V1.8.1  |
| STM32L4                                   | V1.13.0 |
| STM32MP1                                  | V1.0.0  |
| STM32WB                                   | V1.0.0  |

## 3.15 STM32CubeMX V5.0.1 release information

Bug fixes.

Performance enhancements when loading *ioc* file and creating new project.

### 3.15.1 Fixed issues

**Table 31. Main fixed issues in V5.0.1**

| ID    | Summary                                                                                        |
|-------|------------------------------------------------------------------------------------------------|
| 56930 | Custom optimization level lost.                                                                |
| 57218 | [PCC][L0/L1/L4] Impossible to disable Transition Checker.                                      |
| 58072 | Import of an STM32F401 <i>ioc</i> into an STM32F446 project generates a project for STM32F401. |

### 3.15.2 Firmware package versions

[Table 32](#) shows the firmware package versions.

Table 32. Firmware package versions in V5.0.1

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32H7                                   | V1.3.0  |
| STM32F7                                   | V1.13.0 |
| STM32F4                                   | V1.22.0 |
| STM32F3                                   | V1.10.0 |
| STM32F2                                   | V1.7.0  |
| STM32F1                                   | V1.7.0  |
| STM32F0                                   | V1.9.0  |
| STM32L4                                   | V1.13.0 |
| STM32L1                                   | V1.8.1  |
| STM32L0                                   | V1.11.0 |
| STM32G0                                   | V1.0.0  |

### 3.16 STM32CubeMX V5.0.0 release information

New user interface and new look and feel.

Code generation updates and enhancements for better alignment with STM32Cube™ firmware.

Added the support of STM32G0 Series with first examples in MX format available in the STM32Cube\_FW\_G0\_1.0.0 STM32CubeG0 MCU Package.

Added the support of STM32L0 Value Line devices.

Added the support of TouchGFX for STM32F4 Series and STM32F7 Series.

Added the support of new middleware versions for STM32F4 Series, STM32F7 Series, and STM32L0 Series.

Added user behavior reporting feature.

#### 3.16.1 Fixed issues

Table 33. Main fixed issues in V5.0.0

| ID    | Summary                                                                   |
|-------|---------------------------------------------------------------------------|
| 30612 | 411788-[CodeGen] STM32CubeMX and <i>syscalls.c</i> .                      |
| 42544 | [MX-RCC] Wrong Flash latency for STM32L48x and STM32L47x.                 |
| 48678 | [MX-GUI] Only compatible <i>ioc</i> must be displayed in the recent menu. |
| 50032 | [MX-RCC] Missing code gen of LSE drive capability.                        |
| 52706 | Pull up should not be enabled on TS sampling channels.                    |
| 52714 | [MX-IWDG] Code reorganization in LL mode.                                 |
| 54409 | [MX-RTC] Wrong code generated when selecting PB2 for RTC_OUT.             |

**Table 33. Main fixed issues in V5.0.0 (continued)**

| ID    | Summary                                                                                         |
|-------|-------------------------------------------------------------------------------------------------|
| 55082 | [MX-Clock] RTC clock value is MHz while the unit is kHz.                                        |
| 55132 | [MX-CAN] The activation of CAN2 requires the activation of CAN1 clock.                          |
| 55692 | [MX-GPIO] [CodeGen] Wrong alternate mode for I2S3 clock pin and I2S3 extSD pin.                 |
| 55700 | [MX-Boards] wrong default pin assignment for Nucleo-32 boards: NUCLEO-F042K6 and NUCLEO-F303K8. |

### 3.16.2 Firmware package versions

[Table 34](#) shows the firmware package versions.

**Table 34. Firmware package versions in V5.0.0**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32H7                                   | V1.3.0  |
| STM32F7                                   | V1.13.0 |
| STM32F4                                   | V1.22.0 |
| STM32F3                                   | V1.10.0 |
| STM32F2                                   | V1.7.0  |
| STM32F1                                   | V1.7.0  |
| STM32F0                                   | V1.9.0  |
| STM32L4                                   | V1.13.0 |
| STM32L1                                   | V1.8.1  |
| STM32L0                                   | V1.11.0 |
| STM32G0                                   | V1.0.0  |

## 3.17 STM32CubeMX V4.27.0 release information

Added the support of new STM32L4 Series part numbers: STM32L412xx and STM32L422xx.

Added the support of STemWin library v5.44 for STM32L4+ Series.

Added FreeRTOS™ v10 integration for STM32L4 Series and STM32L4+ Series.

Added USB Host 3.3 integration for STM32L4 Series and STM32L4+ Series.

Added IAR™ EWARM v8.x to the list of supported IDEs.

### 3.17.1 Fixed issues

**Table 35. Main fixed issues in V4.27.0**

| ID    | Summary                                                                                                      |
|-------|--------------------------------------------------------------------------------------------------------------|
| 48565 | [MX-UART] "Hardware Flow Control" must be available only when asynchronous mode is selected for UART4/UART5. |
| 49525 | [MX-RTC] RTC_OUT on PC13 (or PB2) requires to configure PC13 (or PB2) GPIO registers as alternate function.  |
| 48277 | [MX-DMA] "DMA.h" in <i>Sai.c</i> written in capital letters causes compilation error under Linux.            |
| 48955 | Bug in the BSP bus creation when more than one SPI and I <sup>2</sup> C instances are used.                  |
| 49087 | STM32CubeMx duplicates the Middleware files in an IDE when regenerating the project.                         |
| 49941 | <i>nucleo_l152re_bus.c</i> does not compile when I <sup>2</sup> C bus is used.                               |
| 47485 | STemWin wrapper does not handle 90° rotation.                                                                |
| 50198 | Missing <code>LCD_LL_Reset()</code> call in generated code since STM32CubeMX V4.26.0.                        |
| 51210 | [MX-ProjectManager] <i>stm32f3xx_ll_exti.c</i> added to C_SOURCES twice in <i>makefile</i> .                 |
| 51963 | STM32CubeMx V4.26.1 not working for the STM3220G-EVAL board                                                  |

### 3.17.2 Firmware package versions

[Table 36](#) shows the firmware package versions.

**Table 36. Firmware package versions in V4.27.0**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32H7                                   | V1.4.0  |
| STM32F7                                   | V1.12.0 |
| STM32F4                                   | V1.21.0 |
| STM32F3                                   | V1.10.0 |
| STM32F2                                   | V1.7.0  |
| STM32F1                                   | V1.7.0  |
| STM32F0                                   | V1.9.0  |
| STM32L4                                   | V1.13.0 |
| STM32L1                                   | V1.9.0  |
| STM32L0                                   | V1.11.0 |

## 3.18 STM32CubeMX V4.26.1 release information

Added support of STM32F7 Series and STM32H7 Series part numbers with configuration, and HAL and LL code generation.

### 3.18.1 Fixed issues

**Table 37. Main fixed issues in V4.26.1**

| ID    | Summary                                                                         |
|-------|---------------------------------------------------------------------------------|
| 44784 | [MX-SYS] Maximum number of MPU regions must be 16 for STM32H7.                  |
| 46866 | [MX-ADC][LL] CubeMX code generation, ADC injected, wrong rank/channel.          |
| 47061 | [MX-Updater][F3] Fail to Install STM32CubeF3 packages "From Local".             |
| 48180 | [MX-LWIP] LWIP_TCP must be generated in <i>lwipopts.h</i> when TCP is disabled. |
| 48204 | [MX-RCC] Wrong code generation when using HSE instead.                          |
| 49968 | [MX-Graphics] <code>OS_TimeMS++</code> to be removed if FreeRTOS™ is enabled.   |

### 3.18.2 Firmware package versions

[Table 38](#) shows the firmware package versions.

**Table 38. Firmware package versions in V4.26.1**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32H7                                   | V1.3.0  |
| STM32F7                                   | V1.12.0 |
| STM32F4                                   | V1.21.0 |
| STM32F3                                   | V1.10.0 |
| STM32F2                                   | V1.7.0  |
| STM32F1                                   | V1.6.1  |
| STM32F0                                   | V1.9.0  |
| STM32L4                                   | V1.12.0 |
| STM32L1                                   | V1.8.1  |
| STM32L0                                   | V1.10.0 |

## 3.19 STM32CubeMX V4.26.0 release information

Added support for STMicroelectronics BlueNRG-MS pack.

Added contextual documentation of a selected MCU in MCU Selector and Peripheral tree.

Added STM32L4+ Series and completed STM32F4 and STM32F7 Series support in the Graphics Selector, Graphics Simulator, and STemWin library.

Added TrueSTUDIO® support for graphics projects.

### 3.19.1 Fixed issues

**Table 39. Main fixed issues in V4.26.0**

| ID    | Summary                                                                                                                      |
|-------|------------------------------------------------------------------------------------------------------------------------------|
| 42586 | [MX-MCU] STM32H743IIX is not usable in STM32CubeMX.                                                                          |
| 42620 | [MX-USB] The <code>USBD_SUPPORT_USER_STRING</code> must be set to 0 except for DFU class.                                    |
| 42737 | [ADC/OPAMP] Wrong regular channel configuration generated when setting ADC1_IN8 or ADC1_IN15 to OPAMP x output differential. |
| 43350 | [MX-TIM] ETR is requesting the HSI48 from clock without using it.                                                            |
| 43537 | [MX-ProjectManager] Generated projects are no more compatible with new Keil® packs.                                          |
| 43643 | [MX-CodeGen] PWR must be enabled in <code>LL_Init()</code> for all Series.                                                   |
| 45279 | [MX-Pinout] G10 pin must be VSS.                                                                                             |
| 45879 | [MX-USART] Wrong default value for word length.                                                                              |
| 46302 | [MX-GPIO] The pull status is not generated for USART3.                                                                       |
| 46635 | STM32CubeMX TouchSensing <code>TSL_OBJ_TOUCHKEY</code> generated instead of <code>TSL_OBJ_TOUCHKEY_B</code> .                |
| 46862 | [MX-SDMMC] Wrong max SD div.                                                                                                 |
| 46864 | [MX-NVIC] Timebase interrupt lost.                                                                                           |
| 46997 | [MX-TIM] Remove master mode configuration from TIM7 in STM32F412.                                                            |

### 3.19.2 Firmware package versions

[Table 40](#) shows the firmware package versions.

**Table 40. Firmware package versions in V4.26.0**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32H7                                   | V1.2.0  |
| STM32F7                                   | V1.11.0 |
| STM32F4                                   | V1.21.0 |
| STM32F3                                   | V1.9.1  |
| STM32F2                                   | V1.7.0  |
| STM32F1                                   | V1.6.1  |
| STM32F0                                   | V1.9.0  |
| STM32L4                                   | V1.12.0 |
| STM32L1                                   | V1.8.1  |
| STM32L0                                   | V1.10.0 |

## 3.20 STM32CubeMX V4.25.1 release information

Minor release fixing an issue related to PLLM code generation for STM32L4 Series.

### 3.20.1 Fixed issue

**Table 41. Fixed issue in V4.25.1**

| ID    | Summary                                       |
|-------|-----------------------------------------------|
| 45399 | [MX-Clock] PLLM is not generated for STM32L4. |

### 3.20.2 Firmware package versions

[Table 42](#) shows the firmware package versions.

**Table 42. Firmware package versions in V4.25.1**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32H7                                   | V1.2.0  |
| STM32F7                                   | V1.11.0 |
| STM32F4                                   | V1.21.0 |
| STM32F3                                   | V1.9.0  |
| STM32F2                                   | V1.7.0  |
| STM32F1                                   | V1.6.1  |
| STM32F0                                   | V1.9.0  |
| STM32L4                                   | V1.11.0 |
| STM32L1                                   | V1.8.1  |
| STM32L0                                   | V1.10.0 |

## 3.21 STM32CubeMX V4.25.0 release information

Added support for STemWin v5.40 graphics middleware.

Added graphics criteria in the MCU selector: 16 part numbers supported in the STM32F4 Series and STM32F7 Series.

Added a graphics simulator for performance evaluation based on specific parameter configuration.

### 3.21.1 Fixed issues

**Table 43. Fixed issue in V4.25.0**

| ID    | Summary                                                                                             |
|-------|-----------------------------------------------------------------------------------------------------|
| 42936 | [SPI Code gen] include file stm32f1xx_hal_spi_ex.h in gpdsc file does not exist. Do not mention it. |
| 43135 | [MX-Clock] Add the backup domain enable before LSE drive configuration.                             |
| 43142 | [MX-Clock] PLLM is no more generated for L4+.                                                       |
| 43046 | Code generation fails when RTC is enabled.                                                          |

**Table 43. Fixed issue in V4.25.0 (continued)**

| ID    | Summary                                                                                |
|-------|----------------------------------------------------------------------------------------|
| 43144 | [MX-CAN][F4] From 4.23 to 4.24: compatibility issue for CAN.                           |
| 43317 | [Project Generation] Broken for TrueSTUDIO® using STM32CubeMX 4.24.                    |
| 43318 | [Project Generation for TrueStudio] Invalid symbol definition for MBEDTLS_CONFIG_FILE. |
| 43379 | [MX-USART][F3] Incorrect maximum baudrate value for USART2.                            |
| 43581 | [MX-Project Manager] Missing stm32f0xx_ll_rcc.c file in generated project.             |

### 3.21.2 Firmware package versions

[Table 44](#) shows the firmware package versions.

**Table 44. Firmware package versions in V4.25.0**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32H7                                   | V1.2.0  |
| STM32F7                                   | V1.11.0 |
| STM32F4                                   | V1.21.0 |
| STM32F3                                   | V1.9.0  |
| STM32F2                                   | V1.7.0  |
| STM32F1                                   | V1.6.0  |
| STM32F0                                   | V1.9.0  |
| STM32L4                                   | V1.11.0 |
| STM32L1                                   | V1.8.1  |
| STM32L0                                   | V1.10.0 |

## 3.22 STM32CubeMX V4.24.0 release information

Added support for the STM32F0 Series, STM32F3 Series, STM32F4 Series, STM32F7 Series, STM32L0 Series, STM32L1 Series, and STM32L4+ Series new part numbers.

Added support for STM32F1 code generation using the low-level libraries (LL).

Added support for the TouchSensing and PDM2PCM middleware

Added framework to add additional software components to the project.

### 3.22.1 Fixed issues

**Table 45. Fixed issue in V4.24.0**

| ID    | Summary                                                                         |
|-------|---------------------------------------------------------------------------------|
| 41450 | [MX-MDMA] MDMA blocked after adding a QSPI request.                             |
| 41131 | [MX-GUI] Project manager window must fit in a resolution with 600-pixel height. |

**Table 45. Fixed issue in V4.24.0 (continued)**

| ID    | Summary                                                                                                    |
|-------|------------------------------------------------------------------------------------------------------------|
| 39814 | Project that contains "ac6" on the project name generates an error.                                        |
| 25745 | 301525-[MX-ProjectManager] ICF files must not be overwritten.                                              |
| 39269 | [MX-HRTIM] TIMD DMA turned to TIME DMA after switching from TD2 to TD1 output.                             |
| 41799 | [MX-Load] ioc is not loaded without full path.                                                             |
| 39931 | [FATFS SD-CARD] sd_diskio.c missing some code and call to BSP_SD_init().                                   |
| 30723 | 414377-[MX-Project Manager] Improve the error message when generation fails.                               |
| 30724 | 414384-[MX-CodeGen] Move the bracket of while(1) in the second user tag.                                   |
| 40166 | [STM32L1 Makefile] RCC LL driver missing from generated project.                                           |
| 40525 | [MX-Clock LL] Flash 64-bit access must be enabled over 16 MHz.                                             |
| 41269 | [MX-ADC] InjectedNbrOfConversion is not generated.                                                         |
| 41466 | [MX-SPI] H7 SPI must be able to go up to 150 Mbit/s.                                                       |
| 36245 | [MX-RTC] Move the test on the calendar reeinit.                                                            |
| 40086 | [MX-ADC] Rank register corrupted due to the non-usage of the dedicated defines.                            |
| 39933 | [Nucleo144 H7] Ethernet IP missing.                                                                        |
| 33868 | MCUFinder in CubeMX: Add missing datasheets for STM32F301xx devices.                                       |
| 35008 | [MX-USART/GPIO] USART having level inversion should be able to have a pulldown configuration on their IOs. |
| 41270 | [MX-Clock] PLL3R is not enabled when using the LTDC.                                                       |
| 34325 | [TIMx] The description in the TRGO menu does not reflect the right function.                               |

### 3.22.2 Firmware package versions

[Table 46](#) shows the firmware package versions.

**Table 46. Firmware package versions in V4.24.0**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32H7                                   | V1.2.0  |
| STM32F7                                   | V1.9.0  |
| STM32F4                                   | V1.19.0 |
| STM32F3                                   | V1.9.0  |
| STM32F2                                   | V1.7.0  |
| STM32F1                                   | V1.6.0  |
| STM32F0                                   | V1.9.0  |
| STM32L4                                   | V1.11.0 |
| STM32L1                                   | V1.8.0  |
| STM32L0                                   | V1.10.0 |

## 3.23 STM32CubeMX V4.23.0 release information

Added code generation support using the low-level libraries (LL) for the STM32F2 Series, STM32F4 Series, and STM32F7 Series.

Added support for the new part numbers in the STM32F7 Series and STM32H7 Series.

Added support for the mbedTLS middleware.

### 3.23.1 Fixed issues

**Table 47. Fixed issue in V4.23.0**

| ID    | Summary                                                                              |
|-------|--------------------------------------------------------------------------------------|
| 36160 | Rename FDCAN modes from slave/master to classic and from full duplex to FD           |
| 37072 | [MX-ADC] ADC maximum frequency must be 36 MHz                                        |
| 37531 | [Mx-GPIO] GPIO output level configuration is missing                                 |
| 38047 | [MX-Clock] PLLM is no more generated                                                 |
| 35083 | [MX-clock] Periph clock config is not generated when the PLLSAI is used for LTDC     |
| 26700 | [Project Manager]} A Debug folder should be removed from project tree under SW4STM32 |
| 27635 | [UI] Loading of project shows project as modified                                    |

### 3.23.2 Firmware package versions

*Table 48* shows the firmware package versions.

**Table 48. Firmware package versions in V4.23.0**

| STM32Cube firmware and updated middleware | Version                   |
|-------------------------------------------|---------------------------|
| STM32H7                                   | V1.1.0                    |
| STM32F7                                   | V1.8.0                    |
| STM32F4                                   | V1.17.0<br>– FatFS R0.12c |
| STM32F3                                   | V1.9.0                    |
| STM32F2                                   | V1.6.0                    |
| STM32F1                                   | V1.6.0                    |
| STM32F0                                   | V1.9.0                    |
| STM32L4                                   | V1.10.0                   |
| STM32L1                                   | V1.8.0                    |
| STM32L0                                   | V1.10.0                   |

## 3.24 STM32CubeMX V4.22.1 release information

Added support for STM32L4+ Series and for new part numbers of STM32F0 Series, STM32F3 Series, STM32F4 Series, STM32F7 Series, and STM32L1 Series.

### 3.24.1 Fixed issues

**Table 49. Fixed issue in V4.22.1**

| ID    | Summary                                                                                 |
|-------|-----------------------------------------------------------------------------------------|
| 25102 | [USB] Issue with the Device_Only parameter “Use dedicated endpoint 1 interrupt”         |
| 36182 | [ADC] Wrong defines used for two sampling delay in dual mode                            |
| 37066 | [I2S] Wrong Alternate Function for I2S_CK on PB12                                       |
| 36143 | [GUI] Wording fix                                                                       |
| 26262 | [DMA] An issue with DFSDM DMA requests / interrupts after disabling DMA mode parameter. |
| 28946 | [FATFS] Dependencies issue when using no check for some FatFS parameters                |
| 36247 | [ADC] DMA access mode is disabled by MX after hitting cancel button                     |
| 36184 | [ADC] multi mode configuration must not be generated for slave ADCs                     |

### 3.24.2 Firmware package versions

*Table 50* shows the firmware package versions.

**Table 50. Firmware package versions in V4.22.1**

| STM32Cube firmware and updated middleware | Version                                        |
|-------------------------------------------|------------------------------------------------|
| STM32H7                                   | V1.1.0                                         |
| STM32F7                                   | V1.8.0<br>– FatFS R0.12c<br>– FreeRTOS™ V9.0.0 |
| STM32F4                                   | V1.16.0                                        |
| STM32F3                                   | V1.9.0                                         |
| STM32F2                                   | V1.6.0                                         |
| STM32F1                                   | V1.6.0                                         |
| STM32F0                                   | V1.9.0                                         |
| STM32L4                                   | V1.9.0<br>– FatFS R0.12c                       |
| STM32L1                                   | V1.8.0                                         |
| STM32L0                                   | V1.10.0                                        |

## 3.25 STM32CubeMX V4.22.0 release information

Added support for code generation using the low-layer libraries for the STM32L1 Series.

The chip view of the pinout tab can be rotated and flipped.

In the MCU selector and if there are less than 50 MCUs matching the search criteria, a search can be run on approaching MCUs.

In the pinout view, the user can define several signals on a pin but use them at different time in his code.

### 3.25.1 Fixed issues

**Table 51. Fixed issue in V4.22.0**

| ID    | Summary                                                                                     |
|-------|---------------------------------------------------------------------------------------------|
| 33855 | [MX-HRTIM] Wrong argument generated for HRTIM Fault level                                   |
| 34310 | DSI color mode not correctly generated                                                      |
| 30832 | [MX-LwIP] With GCC + LwIP + FreeRTOS™, redefined struct timeval causes compilation error    |
| 34938 | [LwIP/H7] Compilation error in lwip.c with LwIP + LWIP_NETIF_LINK_CALLBACK and without RTOS |
| 29403 | [GUI] STM32CubeMX pin user label problem                                                    |
| 34383 | [MX-RCC] Set the default LSE drive to "LSE High Level Drive"                                |

**Table 51. Fixed issue in V4.22.0 (continued)**

| ID    | Summary                                                                                                         |
|-------|-----------------------------------------------------------------------------------------------------------------|
| 34641 | [MX-Clock] Please add the handling of the DFSDM ACLK in the clock tree                                          |
| 34642 | [MX-Clock] The auto resolver does not refresh the AHB and APBs dividers                                         |
| 35137 | [MX-Clock] Min frequency of ADC for L433 must be set to 0.14 MHz                                                |
| 34380 | [STM32H7] Alternate functions in PA0, PA1, PC2 and PC3 are not available in PA0_C, PA1_C, PC2_C and PC3_C GPIOs |

### 3.25.2 Firmware package versions

[Table 52](#) shows the firmware package versions.

**Table 52. Firmware package versions in V4.22.0**

| STM32Cube firmware and updated middleware | Version |
|-------------------------------------------|---------|
| STM32H7                                   | V1.0.0  |
| STM32F7                                   | V1.7.0  |
| STM32F4                                   | V1.16.0 |
| STM32F3                                   | V1.9.0  |
| STM32F2                                   | V1.6.0  |
| STM32F1                                   | V1.6.0  |
| STM32F0                                   | V1.8.0  |
| STM32L4                                   | V1.8.1  |
| STM32L1                                   | V1.7.0  |
| STM32L0                                   | V1.9.0  |

## 3.26 STM32CubeMX V4.21.0 release information

Support of code generation, clock and power consumption calculation for STM32F1, STM32F4, STM32H7, STM32L0, STM32L1, and STM32L4 Series new part numbers is added. Support for code generation using the low-layer libraries for the STM32L0 and STM32F0 Series is added. Project can be generated as a general purpose makefile. It is possible to generate the code using the HAL library or the LL library for each peripheral instance. The MCU selection for a new project is using the same interface as STMCUFinder.

### 3.26.1 Fixed issues

**Table 53. Fixed issue in V4.21.0**

| ID    | Summary                                                      |
|-------|--------------------------------------------------------------|
| 30838 | [FATFS] Generated project no longer compiles after migration |
| 33343 | [MX-LWIP] MII arguments used in RMII mode                    |

**Table 53. Fixed issue in V4.21.0 (continued)**

| ID    | Summary                                                                                      |
|-------|----------------------------------------------------------------------------------------------|
| 30938 | [NVIC] STM32CubeMX ignores "Uses FreeRTOS™ functions" checkbox                               |
| 29321 | [DMA] DMA Wrong FIFO configuration in MEMTOMEM case                                          |
| 30923 | Project compatibility: from 4.16 to 4.20, load issue / code gen clock issue / run time issue |
| 30829 | [MX-Clock] Remove the PCLK constraint when the I <sup>2</sup> C is activated                 |
| 30854 | [MX-Clock] Move the LSE drive configuration in the generated code                            |
| 30790 | [TIM] Wrong Remap for TIM16 on TI1                                                           |
| 30833 | [MX-LTDC] Missing some pixel format in 16-bit mode                                           |

### 3.26.2 Firmware package versions

[Table 54](#) shows the firmware package versions.

**Table 54. Firmware package versions in V4.21.0**

| STM32Cube firmware and updated middleware                | Version                                             |
|----------------------------------------------------------|-----------------------------------------------------|
| STM32H7<br>– LwIP<br>– FreeRTOS™<br>– FatFS<br>– LibJPEG | V1.0.0<br>– V2.0.0<br>– V9.0.0<br>– R0.12c<br>– V8d |
| STM32F7                                                  | V1.7.0                                              |
| STM32F4                                                  | V.1.16.0                                            |
| STM32F3                                                  | V1.8.0                                              |
| STM32F2<br>– LwIP<br>– FreeRTOS™<br>– LibJPEG            | V1.6.0<br>– V2.0.0<br>– V9.0.0<br>– V8d             |
| STM32F1                                                  | V1.4.0                                              |
| STM32F0<br>– FreeRTOS™                                   | V1.8.0<br>– V9.0.0                                  |
| STM32L4                                                  | V1.8.0                                              |
| STM32L1                                                  | V1.7.0                                              |
| STM32L0<br>– FreeRTOS™                                   | V1.9.0<br>– V9.0.0                                  |

### 3.27 STM32CubeMX V4.20.1 release information

Regression is fixed in the management of peripherals parameters default value.

### 3.27.1 Fixed issue

**Table 55. Fixed issue in V4.20.1**

| ID | Summary                                                               |
|----|-----------------------------------------------------------------------|
| -  | Regression in the management of peripherals parameters default value. |

### 3.27.2 Firmware package versions

[Table 56](#) shows the firmware package versions.

**Table 56. Firmware package versions in V4.20.1**

| STM32Cube firmware and updated middleware     | Version                                   |
|-----------------------------------------------|-------------------------------------------|
| STM32F7                                       | V1.6.0                                    |
| STM32F4<br>– LwIP<br>– FreeRTOS™<br>– LibJPEG | V.1.15.0<br>– V2.0.0<br>– V9.0.0<br>– V8d |
| STM32F3                                       | V1.7.0                                    |
| STM32F2                                       | V1.4.0                                    |
| STM32F1                                       | V1.4.0                                    |
| STM32F0                                       | V1.7.0                                    |
| STM32L4<br>– FreeRTOS™                        | V1.7.0<br>– V9.0.0                        |
| STM32L1                                       | V1.6.0                                    |
| STM32L0                                       | V1.8.0                                    |

## 3.28 STM32CubeMX V4.20.0 release information

Configuration and code generation for the libjpeg middleware on the STM32F4 Series is added. Support for security IPs: Crypt, AES and HASH is added. Support for hardware JPEG on STM32F7 is added. Code generation on the low-layer Libraries for the STM32F3 Series is added. The user can assign several analog signals on the same pin. This allows to use the output of an analog peripheral as input of another analog peripheral.

### 3.28.1 Fixed issues

**Table 57. Fixed issues in V4.20.0**

| ID     | Summary                                                                          |
|--------|----------------------------------------------------------------------------------|
| 407521 | mxconstants.h user section not migrated to main.h (4.15 to 4.19 migration)       |
| 407571 | ADC config migration 4.15 to 4.19                                                |
| 411761 | [IMPORT] DAC parameteres are not imported (regression first appears in 4.19-A.5) |
| 411058 | [MX-HRTIM] event fast mode arguments are inverted                                |

Table 57. Fixed issues in V4.20.0 (continued)

| ID     | Summary                                                                                                |
|--------|--------------------------------------------------------------------------------------------------------|
| 409934 | [L082CZ] WLCSP49 part numbers are missing                                                              |
| 409316 | [USB]: Remove Class for HS IP from USB_Device and Host from Series that do not support USB HS          |
| 409781 | [STM32 Eval board names] remove F from board name for F0,F1,F2 and F4 eval board partnumbers           |
| 409983 | [USB Host All classes]: FatFS USB Disk must be available when selecting USB Host All Classes           |
| 413906 | [FreeRTOS v9] USE_TICKLESS_IDLE missing in configuration panel                                         |
| 398593 | [MX-LCD] Active width and height update                                                                |
| 408240 | [MX-ADC] ADC2 is locked with ADC1 configuration even if dual mode is disabled                          |
| 408680 | [MX-RTC LL] The sync and async prescalers are not generated in LL mode                                 |
| 409825 | [MX-DSI] video null packet size must be in byte                                                        |
| 409826 | [MX-DSI] The color coding must be defined by the LCD one                                               |
| 413430 | [MX-CRS] Reload value must be divided in accordance with the selected CRS divisor                      |
| 413434 | [DMA] SPI1_RX_DMA request not loaded                                                                   |
| 410719 | [MX-Board]HSI is set to 8 MHz for Nucleo 144 F412                                                      |
| 413407 | [MX-RCC]remove cache option in RCC configuration TAB for F0 family                                     |
| 413804 | [MX-NVIC] Wrong Time base priority after reload with FreeRTOS™ activated                               |
| 380815 | [MX-Clock] the clock selection of I2C4 is missing from the clock tree                                  |
| 411164 | CPU is significantly increasing under Clock Configuration tab                                          |
| 409435 | [USB/NVIC]: USB interrupts and their remaps will be checked after clicking button Cancel or Close [X]  |
| 403271 | [Installer] startuninstaller.desktop file missing when using an automatic install under Linux.         |
| 411181 | [Boards] no Nucleo-F767ZI anymore                                                                      |
| 403293 | [Project generation GPDSC option]: system.c file not copied with Src files                             |
| 409298 | [MX-Clock] unable to resolve clock configuration conflict between USB and SDMMC requirement in STM32F7 |
| 410415 | [MX-GUI] error ioc version message to be improved                                                      |
| 414004 | [MX-GUI] Show the MX ioc version in the migration dialog                                               |
| 345588 | [MX-RTC] IT will be nice to avoid the calendar reconfiguration after wakeup from low-power mode        |
| 408018 | [Project Manager] Remove duplicated startup file.                                                      |

### 3.28.2 Firmware package versions

*Table 58* shows the firmware package versions.

**Table 58. Firmware package versions in V4.20.0**

| STM32Cube firmware and updated middleware     | Version                                  |
|-----------------------------------------------|------------------------------------------|
| STM32F7                                       | V1.6.0                                   |
| STM32F4<br>– LwIP<br>– FreeRTOS™<br>– LibJPEG | V1.15.0<br>– V2.0.0<br>– V9.0.0<br>– V8d |
| STM32F3                                       | V1.7.0                                   |
| STM32F2                                       | V1.4.0                                   |
| STM32F1                                       | V1.4.0                                   |
| STM32F0                                       | V1.7.0                                   |
| STM32L4<br>– FreeRTOS™                        | V1.7.0<br>– V9.0.0                       |
| STM32L1                                       | V1.6.0                                   |
| STM32L0                                       | V1.8.0                                   |

## 3.29 STM32CubeMX V4.19.0 release information

Support of code generation, clock and power consumption calculation for the new part numbers of the STM32F4 and STM32F7 Series is added. Configuration and code generation for the libjpeg middleware for the STM32F7 Series is added.

### 3.29.1 Fixed issues

**Table 59. Fixed issues in V4.19.0**

| ID     | Summary                                                                                                                                           |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 379904 | [L0 ADC] wrong Sampling time literals                                                                                                             |
| 402731 | [MX-] All boards user button must be configured in external iBoardInterrupt mode                                                                  |
| 402997 | [Project Manager] Wrong generated Ram size. for F103 with CSP package.                                                                            |
| 403090 | [Project Manager-TrueStudio] Missing Device parameter for STM32L031G6UxS MCU                                                                      |
| 403192 | [IDE] Empty DMA section in MX_Device.h                                                                                                            |
| 403508 | [Project migration issue] Build error, system file duplicated                                                                                     |
| 404470 | [MX Project Generation] Source files are generated twice in USER group of the IDE tree when generating a code for a copied IOC in other directory |
| 406121 | [CSV Pinout generation]: An exception is occurred when try to overwrite an opened csv file                                                        |
| 406644 | MX-Clock HSI is accepted as USB clock source                                                                                                      |

**Table 59. Fixed issues in V4.19.0 (continued)**

| ID     | Summary                                                               |
|--------|-----------------------------------------------------------------------|
| 406662 | Errors due to __weak and __packed symbols for Mac and Linux           |
| 408464 | [MX-Clock] Wrong generated argument for MCO at PB13                   |
| 406365 | [Code_Gen] STM32CubeMX generating bad code for TIM3                   |
| 287957 | [MX-I2S] Allow to enter any I2S audio frequency                       |
| 351190 | [Generation under root for SW4STM32] startup file location            |
| 376940 | [MX-GPIO] GPIO level set should be done before init to avoid glitches |
| 381211 | [MX-RCC] Add the configuration of LSE drive capability                |
| 401467 | [STM32F446] Misleading or Issue for I2S clocks in clock tree          |
| 402068 | [True studio project generation] copy startup file to project         |

### 3.29.2 Firmware package versions

[Table 60](#) shows the firmware package versions.

**Table 60. Firmware package versions in V4.19.0**

| MCU     | Version |
|---------|---------|
| STM32F7 | V1.6.0  |
| STM32F4 | V1.14.0 |
| STM32F3 | V1.7.0  |
| STM32F2 | V1.4.0  |
| STM32F1 | V1.4.0  |
| STM32F0 | V1.7.0  |
| STM32L4 | V1.6.0  |
| STM32L1 | V1.6.0  |
| STM32L0 | V1.8.0  |

## 3.30 STM32CubeMX V4.18.0 release information

New option to find all the MCUs that are compatible with the current configuration, either strict pinout compatibility or ignoring power pins or allowing the remap of signals on other pins. A list of compatible MCUs is provided with a percentage of matching. The developer can then select an MCU and import the current configuration on that MCU.

In the configuration window of the peripherals or middleware, a new restore default button has been added to restore the configuration parameters to their default value.

### 3.30.1 Fixed issues

**Table 61. Fixed issues in V4.18.0**

| ID     | Summary                                                                                                      |
|--------|--------------------------------------------------------------------------------------------------------------|
| 397057 | repository path error when the repository is on a secondary drive                                            |
| 398447 | IDE Project settings lost at re-generation                                                                   |
| 398665 | IAR generated projects contain duplicated entries for STM32Cube files                                        |
| 396444 | Labels are not generated if equal to the active signal                                                       |
| 397972 | Prescaler generated two times with different values with no_check options.                                   |
| 399163 | DMA remap must not be checked with HAL_OK in F0 series                                                       |
| 396790 | Remove the call of function HAL_COMPEX_EnableVREFINT(); as now it is managed by the HAL_COMP_Init            |
| 315052 | Red cross appears when changing from LIN mode to Synchronous mode                                            |
| 382182 | The USB NOE mode is missing                                                                                  |
| 382181 | USB Sof activation is missing in the configuration UI                                                        |
| 401442 | Wrong default EXTI signals configuration on Nucleo Boards, it must be Interrupt instead of event             |
| 398907 | STM32F4 ADC Vref and Temperature channels no longer accessible                                               |
| 401889 | STM32CubeMX incorrect clock configuration for Nucleo-F446ZE                                                  |
| 401998 | LSI Clock is not activated when used for the RTC in L0                                                       |
| 383523 | Wrong GPIOSpeed values                                                                                       |
| 397936 | Init of (EXTI_InitStruct->LineCommand) should be added                                                       |
| 398069 | STM32F7 SPIwrong max baud rate value                                                                         |
| 398871 | RTC MSP is empty for L0x1 series (tiny Nemo)                                                                 |
| 401007 | Warning due to __weak symbol                                                                                 |
| 398461 | Import: invalid configuration in the clock after import                                                      |
| 400583 | Wrong limits for RTC Clock coming from the HSE                                                               |
| 398011 | STM32F7 USART: request to support RS485 mode                                                                 |
| 396422 | Timers PWM without output mode is missing                                                                    |
| 292012 | STM32F0 USART: Issue with hardware flow control in USART5-8                                                  |
| 401441 | Blue push button is missing on STM32F407G-DISC1                                                              |
| 396449 | Wrong diagnostic for wakeup pin                                                                              |
| 356333 | ADC DMAAccessMode and TwoSamplingDelay are causing the assert fail if multi mode is set to independent in L4 |
| 400709 | FreeRTOS™ callbacks are not generated as weak functions                                                      |
| 357218 | Switch between PA9 PA10 and PA11 PA12 in TSSOP20 packages not trivial                                        |
| 315538 | System file should be copied in the src folder                                                               |

### 3.30.2 Firmware package versions

[Table 62](#) shows the firmware package versions.

**Table 62. Firmware package versions in V4.18.0**

| MCU     | Version |
|---------|---------|
| STM32F7 | V1.5.1  |
| STM32F4 | V1.14.0 |
| STM32F3 | V1.6.0  |
| STM32F2 | V1.4.0  |
| STM32F1 | V1.4.0  |
| STM32F0 | V1.7.0  |
| STM32L4 | V1.6.0  |
| STM32L1 | V1.6.0  |
| STM32L0 | V1.7.0  |

## 3.31 STM32CubeMX V4.17.0 release information

### 3.31.1 Fixed issues

**Table 63. Fixed issues in V4.17.0**

| ID     | Summary                                                                                                                           |
|--------|-----------------------------------------------------------------------------------------------------------------------------------|
| 317162 | [Project Manager SW4STM32] : Wrong RAM size/Name of Flash file for all series                                                     |
| 347913 | [SW4STM32 generation] RAM size issue in Id script                                                                                 |
| 351598 | [Project Manager]: Wrong management of non-contiguous Flash memories for some L1 devices in Keil, SW4STM32 and True Studio IDEs   |
| 357067 | [MX-ProjectManager] .elf.launch cannot be found while generating and the generation ends with an error                            |
| 373627 | RTC masks management in CubeMX does not allow a 60s wakeup time                                                                   |
| 373912 | [Project Manager]: double startup files and system_xxx.c in IAR project tree when migrate an old IOC from Project settings window |
| 374901 | [MX-ETH] Extended PHY parameters must dependent of the selected PHY                                                               |
| 375914 | [ADC] "Scan Conversion Mode" and "Continuous Conversion Mode" present a red cross when loading an old ioc                         |
| 375940 | [Project Manager] Duplicated While and missing "}" when loading an old IOC                                                        |
| 378297 | [MX-Project Manager] System file is duplicated after migration to the FW patch                                                    |
| 378306 | [MX-RTC] date corrupted after regeneration                                                                                        |
| 380193 | update stm32f4xx_hal_conf.h with new PHY parameters                                                                               |
| 380745 | [MX-I2C/Board] Wrong generated timing with L4 64 Nucleo                                                                           |
| 382220 | [MX-Timers] Pulse must be 16 bit for TIM2                                                                                         |

**Table 63. Fixed issues in V4.17.0 (continued)**

| ID     | Summary                                                                                        |
|--------|------------------------------------------------------------------------------------------------|
| 382305 | [MX-FMC] The row bit number must be equal to the address value                                 |
| 391941 | [USB/GPIO] The Vbus pin must be configured in input mode for all L4 PNs                        |
| 393960 | [MX-USART] The USART2 and USART3 max baudrate is not updated with the PCLK frequency           |
| 395447 | [MX-Clock] Hal alignment fro PLLI2S define when generated only as MCO source                   |
| 396004 | [MX-NVIC] some flags are missing for I2C in smbus mode                                         |
| 396583 | [MX-Project Manager] IRAM1 is empty with L4 and Keil                                           |
| 357744 | [MX-Project Manager] unused headers are causing error red cross display on SW4STM32            |
| 377019 | [MX-Timers] OSSR must be generated to avoid struct corruption                                  |
| 379917 | [F303 Clock tree] empty mux picture                                                            |
| 291227 | [MX-RTC] It would be nice to add a Calendar mode in the RTC                                    |
| 349907 | [I2S for F0] Default CubeMX valid value for Audio frequency leads to invalid I2S configuration |
| 379309 | [MX-Clock]I2S1/2 clock source renaming                                                         |
| 379527 | [MX-Clock]naming update in F412 Clock                                                          |
| 395034 | [STM32F1 USART] The minimum baudrate is wrongly calculated                                     |
| 381511 | [MX-Project Manager] MX keeps generated files locked after generation                          |

### 3.31.2 Firmware package versions

[Table 64](#) shows the firmware package versions.

**Table 64. Firmware package versions in V4.17.0**

| MCU     | Version  |
|---------|----------|
| STM32F7 | V1.5.0   |
| STM32F4 | V.1.13.1 |
| STM32F3 | V1.6.0   |
| STM32F2 | V1.4.0   |
| STM32F1 | V1.4.0   |
| STM32F0 | V1.6.0   |
| STM32L4 | V1.5.2   |
| STM32L1 | V1.6.0   |
| STM32L0 | V1.7.0   |

## 3.32 STM32CubeMX V4.16.1 release information

### 3.32.1 Fixed issues

**Table 65. Fixed issues in V4.16.1**

| ID     | Summary                                                                 |
|--------|-------------------------------------------------------------------------|
| 376010 | [MX-CodeGen] Generation corruption when project is under source control |
| 381627 | [MX-GPIO] The output level configuration is missing                     |
| 382171 | [MX-LWIP] SNMP MIB2 constraints (regression)                            |
| 382264 | [MX-Clock] Clock reload corrupts the HSI value                          |
| 382506 | [MX-ADC] NbrOfDiscConversion should be generated to 1 by default        |
| 372193 | [Pinout user labels] forbid labels starting with numbers                |

### 3.32.2 Firmware package versions

[Table 66](#) shows the firmware package versions.

**Table 66. Firmware package versions in V4.16.1**

| MCU     | Version  |
|---------|----------|
| STM32F7 | V1.4.1   |
| STM32F4 | V.1.13.0 |
| STM32F3 | V1.6.0   |
| STM32F2 | V1.4.0   |
| STM32F1 | V1.4.0   |
| STM32F0 | V1.6.0   |
| STM32L4 | V1.5.1   |
| STM32L1 | V1.6.0   |
| STM32L0 | V1.7.0   |

## 3.33 STM32CubeMX V4.16.0 release information

### 3.33.1 Fixed issues

**Table 67. Fixed issues in V4.16.0**

| ID     | Summary                                                                                    |
|--------|--------------------------------------------------------------------------------------------|
| 374760 | [MX-LCD] Wrong description of LCD_VLCD.                                                    |
| 375315 | [Projectgenerator-FPU] Within IAR, FPU value should be VFPv5 double precision.             |
| 375609 | [Compatibility-FatFS]: Some FatFS functions have changed when migrated from 4.7 to 4.15.1. |

**Table 67. Fixed issues in V4.16.0 (continued)**

| ID     | Summary                                                                      |
|--------|------------------------------------------------------------------------------|
| 376318 | [MX-FreeRTOS] FreeRTOS™ accepts a maximum number of 16 for tasks and queues. |
| 378424 | [MX-Clock] Wrong clock source for I <sup>2</sup> S in F103.                  |
| 378655 | [MX-DMA] Data size corrupted after regeneration.                             |
| 378703 | [User constants] Remove restrictions on hex values.                          |
| 378771 | [MX-Clock] Update the SDMMC maximum limit to 50 MHz.                         |
| 379958 | [USB Device] USBD_static_free function bug.                                  |
| 338480 | [Ethernet] Add user section for overwriting default MAC address.             |

### 3.33.2 Firmware package versions

[Table 68](#) shows the firmware package versions. New package revisions for STM32F2, STM32F3, STM32F4 and STM32L1 Series are now available.

**Table 68. Firmware package versions in V4.16.0**

| MCU     | Version |
|---------|---------|
| STM32F7 | V1.4.1  |
| STM32F4 | V1.13.0 |
| STM32F3 | V1.6.0  |
| STM32F2 | V1.4.0  |
| STM32F1 | V1.4.0  |
| STM32F0 | V1.6.0  |
| STM32L4 | V1.5.1  |
| STM32L1 | V1.6.0  |
| STM32L0 | V1.7.0  |

## 3.34 STM32CubeMX V4.15.1 release information

This release is a minor release, fixing bugs shown in [Table 69](#).

### 3.34.1 Fixed issues

**Table 69. Fixed issues in V4.15.1**

| ID     | Summary                                                            |
|--------|--------------------------------------------------------------------|
| 374212 | [Nucleo 144 F429ZI ] HSI frequency need to be fixed to 16 MHz.     |
| 374542 | [HAL timebase] Revisit generated stm32xxx_hal_timebase_TIM.c file. |
| 375253 | [Mx-Board] Compatibility fails when loading L4 board with ADC.     |

### 3.34.2 Firmware package versions

[Table 70](#) shows the firmware package versions. New package revisions for STM32F0, STM32L4 and STM32L0 Series are now available.

**Table 70. Firmware package versions in V4.15.1**

| MCU     | Version |
|---------|---------|
| STM32F7 | V1.4.0  |
| STM32F4 | V1.12.0 |
| STM32F3 | V1.5.0  |
| STM32F2 | V1.3.1  |
| STM32F1 | V1.4.0  |
| STM32F0 | V1.6.0  |
| STM32L4 | V1.5.1  |
| STM32L1 | V1.5.0  |
| STM32L0 | V1.7.0  |

## 3.35 STM32CubeMX V4.15.0 release information

Added support of code generation, clock and power consumption calculation for STM32F1, STM32F2, STM32F3, STM32F4, STM32F7, STM32L0 and STM32L4 Series new part numbers.

### 3.35.1 Enhancements

- An STM32CubeMX configuration are imported into an empty MCU belonging to a different Series
- In the generated code, the return code of the HAL functions is checked
- In FreeRTOS™ it is now possible to create objects according to the available heap size

### 3.35.2 Fixed issues

**Table 71. Fixed issues in V4.15.0**

| ID     | Summary                                                                                  |
|--------|------------------------------------------------------------------------------------------|
| 351196 | [Clock tree F7] Regression infinite search                                               |
| 343804 | [MX-NVIC] Not all interrupts priority must be modified when activating FreeRTOS™         |
| 348024 | [MX-Timers] Combined trigger + reset slave mode is missing                               |
| 348472 | [PCC][MacOS] Invisible Combobox elements Under "Optional settings" in "Step" Window      |
| 349010 | [Wrong warning on exit] Requesting the user to save a project that has not been modified |
| 353005 | [4.14 Project Generation for TrueStudio] 4.13 projects no longer compile                 |
| 353069 | [MX-OPAMP] Wrong IO number for the OPAMP4 non inverting input on PB11                    |

**Table 71. Fixed issues in V4.15.0 (continued)**

| ID     | Summary                                                                                                            |
|--------|--------------------------------------------------------------------------------------------------------------------|
| 353229 | [MX-SYS] The disable value must be removed from F1 debug and no debug value must be set by default                 |
| 356250 | [MX-Board] Wrong Ethernet PHY address and name for Nucleo 144 boards                                               |
| 356275 | [Custom Code Generation]:Generate template files using command line doesn't work                                   |
| 356387 | [MX-ADC] Illegal frequency allowed for ADC in F401                                                                 |
| 356440 | [MX-SAI] The active slot value is shifted                                                                          |
| 356454 | [MX-USB] dedicated ep1 interrupt couldn't be enabled                                                               |
| 356521 | [MX-Board] Wrong HSI in Birdie/bigbirdie 144 Nucleo                                                                |
| 356556 | [MX-Project Manager] Project generation always fail with any IDE                                                   |
| 356566 | [USB Host] usbh_conf.h missing closing bracket for extern "C"                                                      |
| 356879 | [MX-Clock] APB1 timer clock and TIM2 clock selection not well synchronized                                         |
| 357148 | [MX-ProjectManager] link processing issue in TrueSTUDIO® when generating with under root unchecked                 |
| 357191 | [MX-RTC] RTC ALARMA date corrupted after regeneration                                                              |
| 357287 | [F4 HAL conf] wrong value for PHY_MICR_INT_OE Define                                                               |
| 357558 | [CAN F1 evalboard] CAN1_RX GPIO configuration regression                                                           |
| 332701 | [FatFS] : Wrong EVAL name in the comment in bsp_driver_sd files (.c and .h)                                        |
| 345444 | [Project Manager IAR]: Wrong selected device of STM32L031G6UxS PN                                                  |
| 347778 | [NVIC]: Select for init ordering and generate IRQ handler checkboxes should be same as the last saved modification |
| 348606 | [SPI] CRC define always there whatever the setting CRC (enabled or disabled)                                       |
| 348677 | [SYS]: To be coherent with all MCU, SYS synchronous traces PINs should not be configured                           |
| 350080 | [Installer-MacOS] Displayed uninstaller Path is truncated under Mac OS                                             |
| 349741 | [NVIC]: System service call and Pendable request for system service interrupts are missing in the NVIC UI          |
| 349219 | [MX-ProjectManager] Unable to regenerate project after project settings modification (convert C project into C++)  |
| 356587 | [MX-USB] dev_endpoints is always generated equal to 7                                                              |
| 357448 | [MX-ADC] Issue with internal channel Load for L4 MCUs                                                              |
| 370934 | [MX-PCC] DMA streams consumption is multiplied by 1000 for STM32F411xx                                             |
| 372077 | [MX-Clock] APB1 timer multiplier is not well set with a manual modification and after a search for STM32F411xx     |

### 3.35.3 Firmware package versions

*Table 72* shows the firmware package versions.

STM32F7 and STM32F4 Series firmware packages include a major new version of the LWIP middleware (v1.5.0\_RC0\_20160211). When migrating an old LWIP project to this new version, it is recommended to check the name of the advanced parameters or their default value, since they may have changed.

**Table 72. Firmware package versions in V4.15.0**

| MCU     | Version |
|---------|---------|
| STM32F7 | V1.4.0  |
| STM32F4 | V1.12.0 |
| STM32F3 | V1.5.0  |
| STM32F2 | V1.3.1  |
| STM32F1 | V1.4.0  |
| STM32F0 | V1.5.0  |
| STM32L4 | V1.5.0  |
| STM32L1 | V1.5.0  |
| STM32L0 | V1.6.0  |

### 3.36 STM32CubeMX V4.14.0 release information

Added support of code generation, clock and power consumption calculation to support STM32L4 new part numbers.

#### 3.36.1 Enhancements

- Added an option in the updater to request user proxy password at each session
- Project files are now generated at the root of the project for SW4STM32 and TrueSTUDIO®. The path of the files in the project corresponds to the physical path on the disk.
- NVIC interrupts activation can be done either in the IP init function or at the end of the initialization sequence. Activation can also be sorted to make sure the first interrupt is received in the right order.
- Generated code uses the latest HAL define and does not require anymore in most cases the inclusion of the stm32\_hal\_legacy.h file. When generating again an old project migrated to this release, the generated code is updated to use the latest HAL defined.

#### 3.36.2 Fixed issues

**Table 73. Fixed issues in V4.14.0**

| ID     | Summary                                                                                    |
|--------|--------------------------------------------------------------------------------------------|
| 348002 | [User Constants] are lost when clicking cancel                                             |
| 315023 | [MX-Import] Import must display an error when the IP exists but not the functional mode    |
| 315035 | [MX-Import] Import sets an invalid value when parameters exists but not the selected value |

Table 73. Fixed issues in V4.14.0 (continued)

| ID     | Summary                                                                                                                                              |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| 315868 | [MX-Import] The FW version must be imported only if the FW version is available and import is done for the same family                               |
| 341927 | [MX-Project Manager] Generated project with new IPs is not well cleaned from the previously enabled IPs                                              |
| 344253 | [MX-ProjectGenerator] Wrong RAM size for F3 in Keil                                                                                                  |
| 344431 | [Project manager] Wrong generated Ram Size with TrueSTUDIO® and SW4STM32                                                                             |
| 344919 | [MX-ProjectGenerator] Project generation issue with Keil in F1                                                                                       |
| 345460 | [Project manager] Wrong Ram Size with TrueSTUDIO®                                                                                                    |
| 345912 | [Installer] Enable to create automatic script from command line under Linux                                                                          |
| 346066 | [SPI] with STM32F410xx CRC polynome should be odd                                                                                                    |
| 346135 | [MX-Clock] Wrong I2S clock selection for F446                                                                                                        |
| 346180 | [NVIC] wrong name for Hard Fault Handler                                                                                                             |
| 346378 | [USART] Baudrate min/max values computation issue                                                                                                    |
| 346887 | [DMA] Add tooltip for "Use Fifo" option checkbox                                                                                                     |
| 347860 | [Installer Linux] does not detect 1.8 java version as more recent than 1.7 pre-requisite                                                             |
| 348048 | [Code generator]: Compatibility issue detected when using DB 4.12 after loading an old IOC from 4.14 and created with 4.12 and choose to not migrate |
| 348609 | [SPI for STM32F0] NSS not seen as alternate signal                                                                                                   |
| 348875 | [MX-Linux] Startup files are not generated under linux with GPDSC                                                                                    |
| 349127 | [MX-Board] Flash latency is always set to 2 in F446 Nucleo                                                                                           |
| 349487 | [MX-Clock] TIMPRE is missing for STM32F411/410/401                                                                                                   |
| 314820 | [MX-Import] A warning must be displayed if some IP parameters cannot be imported                                                                     |
| 315021 | [MX-Import] Cannot import USB Device FS to USB OTG FS                                                                                                |
| 315058 | [MX-Import] Warning message for unloaded DMA streams should be improved                                                                              |
| 315169 | [MX-Import] Can't import SDIO to SDMMC                                                                                                               |
| 315190 | [MX-Import] A DMA request must be imported even if the stream is different                                                                           |
| 327441 | Do not enable IRQ in the MX_xxx_Init()                                                                                                               |
| 343879 | [IOC] Detect ioc file is read-only and warn the user                                                                                                 |
| 345088 | [GPIO UI]: GPIO Pin state parameter renaming                                                                                                         |
| 347769 | [MX-USB] CDC_Transmit could fall in a blocking state                                                                                                 |

### 3.37 STM32CubeMX V4.13.1 release information

This release is a minor release, fixing the bugs reported in [Table 74](#).

#### 3.37.1 Fixed issues

**Table 74. Fixed issues in V4.13.1**

| ID     | Summary                                                                                                  |
|--------|----------------------------------------------------------------------------------------------------------|
| 346989 | command line arguments -tpl_path and -dest_path are ignored                                              |
| 347429 | middleware Init function is being called in the main function and again in the default task of FreeRTOS™ |

### 3.38 STM32CubeMX V4.13.0 release information

- Added support of code generation, clock and power consumption calculation for the for new part numbers of the STM32F0, STM32F3, STM32F4, STM32F7 and STM32L0 Series.
- Added over-order control of initialization functions in generated code.

In the project settings, the user chooses to generate a CMSIS-Pack description file (gpdsc) to integrate with other IDEs.

#### 3.38.1 Enhancements

- The clock automatic resolution proposes now the nearest possible value when no solution for an entered value is found.
- A user interface has been added to configure the generation of the user's customized files based on templates.
- Added the choice of time-base source for the HAL library, since choosing another time-base source is highly recommended in a configuration with RTOS.
- Added a user interface to configure the amount of heap and stack required for the application.
- Added the support of GPIO output level in GPIO configuration window.
- Added search feature in peripheral and middleware configuration windows.

#### 3.38.2 Fixed issues

**Table 75. Fixed issues in V4.13.0**

| ID     | Summary                                                                         |
|--------|---------------------------------------------------------------------------------|
| 322128 | [MX on Linux] Error when configuring a GPIO                                     |
| 326364 | [MX-Import] Not saved parameters in the ioc are not imported                    |
| 335703 | [SPI] wrong GPIO settings for NSS hardware mode                                 |
| 336475 | [Project Generation MDK v5] duplicate startup.s                                 |
| 339006 | project using DAC F334 saved with MX 4.11 improperly loaded in MX 4.12          |
| 339116 | [FreeRTOS] incompatibility between code generator V4.6 and code generator V4.11 |

**Table 75. Fixed issues in V4.13.0 (continued)**

| ID     | Summary                                                                                                                                        |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------|
| 339199 | Subseconds parameter must appear in the configuration UI for all families                                                                      |
| 339309 | [MX-Timers] All sClockSourceConfig parameters should be generated to avoid asserts stuck when internal clock is used for the TIM               |
| 339359 | [MX-Import] Import from Timers with different mode presentation is not possible                                                                |
| 339625 | [MX-ADC] The GPIO mode compatibility between 4.11 and older is not managed                                                                     |
| 340574 | [MX-ADC] ADC channels configuration is not generated                                                                                           |
| 343224 | [USB CDC] usb_cdc_if.c receive function needs update to detect received packets                                                                |
| 343267 | [Custom code generation]: Wrong default location for source Folder                                                                             |
| 343837 | [I2S] Init code missing a parameter                                                                                                            |
| 307099 | [GPIO L4]: With multi selection of several GPIO parameters rows the GPIO Mode parameter disappears even when it the same for all selected rows |
| 337239 | [FreeRTOS] Support same entry function for different tasks                                                                                     |
| 330999 | [MX-FreeRTOS] Add the possibility to generate the FreeRTOS™ callbacks as weak functions                                                        |
| 338262 | [Project Manager]: Some Devices newly supported by IAR last version are generated as 'None'                                                    |

### 3.39 STM32CubeMX V4.12.0 release information

- Added support of code generation, clock and power consumption calculation for the new part numbers of the STM32L0 Series.
- When importing an existing project the user selects now the instance of the peripheral to be used.

#### 3.39.1 Enhancements

- Hard fault interrupt handler is now generated.
- Only inputs pins are managed.
- Added support for Nucleo 144 boards.

#### 3.39.2 Fixed issues

**Table 76. Fixed issues in V4.12.0**

| ID     | Summary                                                                           |
|--------|-----------------------------------------------------------------------------------|
| 244833 | [MX-ETH] Multicast MAC addresses shouldn't be accepted                            |
| 332587 | With ETH on F1, Clock Constraint solver cannot solve HCLK default value setting   |
| 333131 | [MX-CRC] CRC is missing in LQFP100 packages for bigManta                          |
| 333234 | [MX-Comp] Comp2 inp must be shorted to comp1 inp when the window mode is selected |
| 333309 | [STM32F107 Eval Board] GPIO pin PA8 requires high speed                           |

**Table 76. Fixed issues in V4.12.0 (continued)**

| ID     | Summary                                                                                                        |
|--------|----------------------------------------------------------------------------------------------------------------|
| 333755 | [MX-FreeRTOS/NVIC] HAL_IncTick must be removed and systick prio must be the lowest when FreeRTOS™ is activated |
| 333931 | [MX-Comp] wrong generated argument for non inverting input                                                     |
| 333982 | [MX-Timers] The mode config is missing for TIM13 and 14 output compare                                         |
| 335369 | [Code Gen] GPIO Labels defines not generated for projects done with former version of CubeMX                   |
| 321698 | [NVIC]: Suggestion to add HardFault handler                                                                    |
| 329785 | [MX-FMC] Some FMC parameters must be added for FMC NAND                                                        |
| 336263 | [F4 SDIO DMA] Mode is DMA_Normal instead of DMA_PFCTRL                                                         |
| 335414 | [MX-HRTIM F3] Event source 1 is configured for HRTIM event 2 even if not selected                              |
| 336803 | [MX-GPIO L4] OSC and OSC32 pins do not keep the user configuration in GPIO mode                                |
| 336207 | [MX-STM32F7 - Clock] Update of Birdie clock max frequencies                                                    |

## 3.40 STM32CubeMX V4.11.0 release information

This release is a minor release, fixing four important bugs (see [Table 77](#)).

### 3.40.1 Enhancements

- Added support of code generation, clock and power consumption calculation for support for STM32L0 Series new part numbers
- About the power consumption calculator:
  - It interpolates now consumption data based on user defined frequency
  - The L4 consumption data now supports voltage from 1.8V to 3.6V
  - It computes max ambient temperature
  - The load sequence mechanism loads sequences from different low-power Series (STM32Lxxx)
- User defined labels are now generated in the code
- In the clock configuration a new button has been added, to trigger automatic clock issue resolution
- DMA parameters are now dependent on the DMA request
- User constants can be defined for string values

### 3.40.2 Fixed issues

**Table 77. Fixed issues in V4.11.0**

| ID     | Summary                                                                     |
|--------|-----------------------------------------------------------------------------|
| 326911 | [SPI] CRC Polynomial even coefficients not allowed                          |
| 327107 | [MX-SPI] Wrong baudrate max value                                           |
| 327389 | [TSC] Generated code misses to initialize some fields of the init structure |
| 327641 | [MX-Exception] Exception generated when loading a project from 4.9 to 4.10  |

**Table 77. Fixed issues in V4.11.0 (continued)**

| ID     | Summary                                                                                               |
|--------|-------------------------------------------------------------------------------------------------------|
| 330371 | [MX-HRTIM]Dead time insertion is done only for timer A and B                                          |
| 330539 | [MX-CodeGen] the generated HSI_VALUE value should be kept to 16MHz                                    |
| 330954 | [MX-Boards] LED2 must be on PB13 instead of PA5 NUCLEO F302 64 pin                                    |
| 331425 | [ADC L4] gpio mode for ADC signals should be GPIO_MODE_ANALOG_ADC_CONTROL instead of GPIO_MODE_ANALOG |
| 331615 | [L0 Clock] wrong HSI value                                                                            |

## 3.41 STM32CubeMX V4.10.0 release information

### 3.41.1 Enhancements

- Support of code generation, clock and power consumption calculation for STM32F4 Series new part numbers.
- Added new tab “User Constants” in the peripheral configuration window to allow the user to add and manage needed constants.
- Import of an existing configuration into a MCU of the same Series, now imports FreeRTOS™ configuration and the power consumption calculator data.
- Default mode for GPIO EXTI is now interrupt mode with a rising edge. Existing projects are unchanged.
- Added more parameters in RTC configuration window to allow time and alarm initialization (Hours, Minutes, Seconds and Sub-Seconds).

### 3.41.2 Fixed issues

**Table 78. Fixed issues in V4.10.0**

| ID     | Summary                                                                         |
|--------|---------------------------------------------------------------------------------|
| 323581 | [USB STM32L1] USB device conf.c file error                                      |
| 323958 | [I4 RAM size] wrong RAM size shown on MCU selector                              |
| 324839 | [MX -TSC] Add default IOMode for TSC signals to be used with single mapped pins |
| 324503 | [FreeRTOS] possible failure when loading a Mx 4.8 project with Mx 4.9 or later  |
| 324514 | [Project Loading] ADC configuration has an issue                                |
| 324931 | [ETH] wrong generated code when auto-negotiation enabled                        |
| 325149 | [STM32F7] wrong generated parameter value PeriphCkInitStruct.PLLSAIP            |
| 325603 | [MX-COMP] wrong COMP status even if input [-] DAC1/2 OUT1/2 mode is selected    |

## 3.42 STM32CubeMX V4.9.0 release information

### 3.42.1 Enhancements

- Support of code generation, clock and power consumption calculation for STM32L4 Series new part numbers.
- Changing MCU is easier than before, since now an existing configuration can be imported into another selected MCU of the same Series.
- Recursive mutexes are created in FreeRTOS™ configuration UI.
- Configuration report now contains the clock tree and active IP, NIVC, GPIO and DMA configuration.
- Clock tree can be reset to its default value with a button or a menu.
- FIFO threshold and burst size constraints are managed in the DMA configuration.

### 3.42.2 Known problems and limitations

When importing a configuration into another MCU, FreeRTOS™ configuration is not imported.

### 3.42.3 Fixed issues

**Table 79. Fixed issues in V4.9.0**

| ID     | Summary                                                          |
|--------|------------------------------------------------------------------|
| 319419 | [STM32F407/417VETx] wrong #21 pin set                            |
| 320275 | [MX self-update] issue when MX UI open                           |
| 306064 | [Project Manager] issue copying DSP example files to the project |

## 3.43 STM32CubeMX V4.8.0 release information

### 3.43.1 Enhancements

Support of code generation, clock and power consumption calculation is available for the new part numbers of the STM32F7 Series.

Management of the dependency and configuration of external I/O, when required by a peripheral. For example it is now possible to configure how to drive the V<sub>BUS</sub> in the USB peripheral.

STM32CubeMX can be installed using 3 methods:

- Installation with a graphical user interface
- Installation on a console with questions asked on the console
- Silent installation allowing to replay a previous installation

To facilitate its integration with other tools, STM32CubeMX provides a command-line mode: STM32CubeMX executes a script of commands without user interface and be launched in background by another application, like for example Matlab.

### 3.43.2 Fixed issues

**Table 80. Fixed issues in V4.8.0**

| ID     | Summary                                                                       |
|--------|-------------------------------------------------------------------------------|
| 311828 | [Code Gen] user code corrupted at next code generation                        |
| 293193 | [ADC] MX must manage ADC max frequency value                                  |
| 310698 | [USB-DFU]: Issues with DFU generated code                                     |
| 311839 | [Project Manager] wrong RAM size                                              |
| 311850 | [ADC code gen] issue initializing Rank 1                                      |
| 311951 | [DMA]: DMA requests must be managed according to I2S mode (Master Transmit or |
| 313498 | [F103] HAL_AFIO_REMAP_SWJ_NOJTAG() macro call misplaced                       |
| 313845 | [LTDC] wrong max for active width & height                                    |
| 314365 | [LTDC] calculated values not updated (left to default) on project load        |
| 314366 | [I2C fast mode] max speed of 400 kHz can not be reached                       |
| 251735 | [Installer]:Incorrect message displayed when JVM missing                      |
| 308956 | Assertion issue with not initialized parameters                               |
| 316076 | [FreeRTOS] heap/stack issue with Timers enabled on STM32F1                    |
| 317882 | [MX-CodeGen] __SYSCFG_CLK_ENABLE(); must be moved to HAL MSP Init             |
| 315631 | [SDIO] GPIO settings to adjust to Pull-Up High-Speed                          |

## 3.44 STM32CubeMX V4.7.1 release information

### 3.44.1 Enhancements

None

### 3.44.2 Fixed issues

**Table 81. Fixed issues in V4.7.1**

| Issue Number | Description                                                                        |
|--------------|------------------------------------------------------------------------------------|
| 314366       | [I2C fast mode] max speed of 400 kHz can not be reached                            |
| 313849       | Core Engine / DMA / HRTIM]: Incorrect loading of HRTIMER ioc file with DMA request |
| 313437       | [MX-CodeGen] a different handle must be declared for UART, USART and LPUART        |
| 311828       | Code Gen] user code corrupted at next code generation                              |
| 311850       | [ADC code gen] issue initializing Rank 1                                           |
| 313498       | [F103] __HAL_AFIO_REMAP_SWJ_NOJTAG() macro call misplaced                          |

Table 81. Fixed issues in V4.7.1 (continued)

| Issue Number | Description                                                                                            |
|--------------|--------------------------------------------------------------------------------------------------------|
| 313807       | [MX-CodeGen] User tags have been removed from the systick handler                                      |
| 311839       | [Project Manager] wrong RAM size                                                                       |
| 314799       | Keil STM32F072RB: Flash programming algorithm is not set                                               |
| 311803       | CpuCode entry in the generated uvoptx file is causing a build error (with Free M0/M0+ license of Keil) |
| 312256       | [Keil L0] STLINK settings are missing                                                                  |

## 3.45 STM32CubeMX V4.7.0 release information

### 3.45.1 Enhancements

Support of code generation, clock and power consumption calculation for support for STM32L1, STM32F0, STM32F3, and STM32F4 Series new part numbers.

In the power consumption calculator and for STM32L0&L1 Series only, wakeup times, as specified in the products datasheets, have been introduced as well as a new option, to allow only possible transitions and to check a sequence for impossible transitions.

Code generation generates a project for the System Workbench for STM32 (SW4STM32) IDE.

### 3.45.2 Fixed issues

Table 82. Fixed issues in V4.7.0

| Issue Number | Description                                                                                       |
|--------------|---------------------------------------------------------------------------------------------------|
| 306025       | [ADC]: Wrong reloaded value of the injected conversion number after save and close CubeMX         |
| 309387       | [I2C]: Issue with I2C initialization code                                                         |
| 308872       | [SDADC]: wrong generated code for injected channels configuration                                 |
| 306991       | [NVIC]: Wrong generated code in stm32f4xx_it.c                                                    |
| 305962       | [L0] ADC multi-config channel generated code is wrong                                             |
| 307425       | [I2C Clock no stretch mode] reverse enabled/disabled mapping                                      |
| 310404       | [PCC] [L1] "Load sequence" doesn't correctly update the step consumptions (when vdd is different) |
| 302889       | [USB NVIC]: incorrect USB wake-up IRQ handler                                                     |
| 306065       | [NVIC for F334] missing global interrupt for TIM3                                                 |
| 306675       | [NVIC]: code generation error for EXTI2 IRQ handler of F1 devices                                 |
| 309993       | [F2 Series] CRC IP missing                                                                        |
| 308890       | [MX-Clock]: wrong default HSI calibration value                                                   |

## 3.46 STM32CubeMX V4.6.0 release information

### 3.46.1 Enhancements

Support of code generation, clock and power consumption calculation for the STM32F1 Series, STM32F0 and STM32F4 new part numbers.

When entering a frequency value for the CPU clock, buses or peripheral clocks, the rest of the clock tree is automatically calculated.

Custom third party code can be generated, allowing smooth integration with third party applications.

### 3.46.2 Known problems and limitations

PPP and SLIPIF are configured in the LWIP library, but the generated code doesn't have all the required links to the hardware interface.

### 3.46.3 Fixed issues

**Table 83. Fixed issues in V4.6.0**

| Issue number | Description                                                                                                                                            |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 292320       | Code generation blocking issue when the SAI peripheral AND an SAI signal not associated to any peripheral mode are selected.                           |
| 294780       | Wrong AF number for few LTDC IOs.                                                                                                                      |
| 244269       | [Project Generation] ToolChain ST-Link configuration does not match the selected debug type in CubeMX.                                                 |
| 272065       | [Config with RTC] missing macro <code>__HAL_RCC_RTC_ENABLE()</code>                                                                                    |
| 276519       | [Clock]: Refresh issue for clock parameters values.                                                                                                    |
| 285899       | [Generated project] Compilation issue with Atollic IDE when MX Code Generation option was set to "Add necessary library ..." in project settings menu. |
| 286984       | [MX-Installer] All CubeMX instances should be displayed in the add or remove program window                                                            |
| 290893       | [CAN]: Possible value for prescaler parameter should be updated after each modification on APB1 clock frequency                                        |
| 291867       | [MX-Clock] Wrong loaded config when constraints are applied on radio buttons                                                                           |
| 291968       | [GPIO]: Fast mode still enabled after remapping the used pin to another which does not use Fast mode feature.                                          |
| 292022       | [Clock]: SDADC Prescaler should be considered in the clock reverse path                                                                                |
| 292535       | [ADC]: When disabling Injected Conversion, Scan Conversion Mode should be Disabled.                                                                    |
| 294771       | [RTC] synchronous pre-divider max is wrong                                                                                                             |
| 294997       | [FreeRTOS] configMAX_CO_ROUTINE_PRIORITIES must be greater than or equal to 1                                                                          |
| 295830       | [DAC2 F3] should not support wave generation possibility                                                                                               |
| 298516       | [MX-FreeRTOS] configTICK_RATE_HZ must not be higher than 1000                                                                                          |

Table 83. Fixed issues in V4.6.0 (continued)

| Issue number | Description                                                                         |
|--------------|-------------------------------------------------------------------------------------|
| 298741       | [MX-FreeRTOS] TIMER_TASK_PRIORITY max value must be equal to configMAX_PRIORITIES-1 |
| 300761       | [MX-Database] Wrong SD and SD_ext pin assignment for I2S3 (F302K8U6)                |
| 301118       | [GPIO Configuration] Labels not saved issue                                         |
| 302133       | DMA handle for SAI declared as static local variable                                |
| 238614       | [MX-FreeRTOS] Some parameters are missing in the UI                                 |

## 3.47 STM32CubeMX V4.5.0 release information

### 3.47.1 Enhancements

Support of code generation, clock and power consumption calculation for new MCUs in the STM32F0 and STM32F3 Series (STM32F09xx, STM32F303xE, STM32F302xE).

### 3.47.2 Known problems and limitations

- The Clock and peripheral configuration and the associated code generation are only supported for STM32F4, STM32F3, STM32F2, STM32F0, STM32L0 and STM32L1 Series, using the STM32Cube Firmware library<sup>(a)</sup>
- Power consumption calculation is only supported for STM32F4, STM32F3, STM32F2, STM32F0, STM32L0 and STM32L1 Series<sup>(a)</sup>
- PPP and SLIPIF can be configured in the LWIP library, but the generated code doesn't have all the required links to the hardware interface

a. Full support for other Series is planned for future releases.

### 3.47.3 Fixed issues

- 242270 [USART] Incorrect setting for smartcard on STM32F2
- 265903 [Pinout STM32L0] UFQFPN32 doesn't show the exposed pad
- 269308 N/A wording not understood correctly in some countries
- 280107 [Code Generation] NVIC pending IRQ flag clearing is useless
- 284134 [MX-Clock] The MSI values are not accepted by the HCLK solution finder
- 284622 [MX-FreeRTOS] Wrong total heap size max value (L1 family)
- 285000 [MX-Clock] The PLL entry divider for MCO is missing
- 285099 [MX-Clock] I2S clock source configuration should be generated only when I2S is activated
- 285111 [MX-Clock] The I2S clock source configuration is not generated when the external audio input is selected
- 285114 [MX-Clock] Wrong generated sysclock when the Timers PLL constraint for clock source is applied
- 285117 [MX-Clock] The PLL activation is not generated when the TIM4 source clock is the PLL
- 286648 [ADC] Issue of INxb channels available for Bank A when they should be for Bank B only
- 287594 [MX-DMA] The burst size should be available even if the address increments is disabled
- 287797 [PCC] Wrong battery life estimation with all steps on "vbus"
- 288325 [PCC] Project not modified after a change of battery

## 3.48 STM32CubeMX V4.4.0 release information

### 3.48.1 New features

STM32CubeMX now fully supports STM32L1 Series.

### 3.48.2 Enhancements

The MCU selector window has been improved to allow filtering on Flash, RAM, EEPROM and number of I/Os.

STM32L052TxY WLCSP package is now supported.

The clock tree now automatically proposes a solution based on the frequencies entered: it either suggests a solution based on the selected path or a new path if no solution is found.

### 3.48.3 Known problems and limitations

- The clock and peripheral configuration and the associated code generation are only supported for STM32F4, STM32F3, STM32F2, STM32F0, STM32L0 and STM32L1 Series, using the STM32Cube Firmware library
- Power consumption calculation is only supported for STM32F4, STM32F3, STM32F2, STM32F0, STM32L0 and STM32L1 Series
- PPP and SLIP can be configured in the LWIP library, but the generated code doesn't have all the required links to the hardware interface

## 3.49 STM32CubeMX V4.3 and 4.3.1 release information

### 3.49.1 Fixed issues

- STM32F0 MCUs
  - Wrong CEC alternate function
  - Invalid presence of TIM6 and TIM7
- STM32F2 MCUs
  - Activation of CAN1 clock is missing when only CAN2 is used
- STM32F3 MCUs
  - Wrong management of PLL constraint
  - GPIOs in output mode are not correctly initialized
  - Invalid presence of TIM6 and TIM7 on some MCUs
  - Missing IRTIM on STM32F318xx
- STM32F4 MCUs
  - Missing ETM options on some STM32F4 MCUs
  - Missing files when generating code for USB
  - Wrong clock constraints and Flash memory latency on STM32F401/411 lines
  - Invalid presence of TIM6 and TIM7 on some MCUs.
- All Series
  - Timers: missing initialization field for Dead Time register

### 3.49.2 Enhancements

In the pinout view:

- signals can be individually locked on a pin
- the Find feature is now case insensitive

In the Power Consumption Calculator view:

- A new battery model can now be defined by the user
- The result of a simulation can now be displayed in different graphical formats, that can be compared with the simulations previously saved

### 3.49.3 Known problems and limitations

- Clock and peripheral configuration and the associated code generation is only supported for the STM32F4, STM32F3, STM32F2, STM32F0 and STM32L0 Series, using the STM32Cube Firmware library
- Power consumption calculation is only supported for the STM32F4, STM32F3, STM32F2, STM32F0, STM32L0 and STM32L1 Series
- PPP and SLIPIF can be configured in the LWIP library, but the generated code doesn't have all the required links to the hardware interface
- When generating code using middleware and IAR EWARM, an issue may occur during the build phase due to a missing path. To avoid such behavior, save the IAR project after each project generation. This problem does not happen when IAR EWARM is closed

## 3.50 STM32CubeMX V4.2 release information

### 3.50.1 New features

STM32CubeMX now fully supports the STM32L0 Series.

### 3.50.2 Enhancements

- A label can be assigned to a signal mapped on a pin
- In the pinout view, a search box allows one to search for a pin, a signal or a label

### 3.50.3 Known problems and limitations

- Clock and peripheral configuration and the associated code generation is only supported for the STM32F4, STM32F2 and STM32L0 Series, using the STM32Cube Firmware library
- Power consumption calculation is only supported for the STM32F4, STM32F2, STM32L0 and STM32L1 Series
- PPP and SLIPIF can be configured in the LWIP library, but the generated code doesn't have all the required links to the hardware interface
- When generating code using middleware and IAR EWARM, one may face issues during the build phase due to a missing path. To avoid such behavior the IAR project should be saved after each project generation. This problem doesn't happen when IAR EWARM is closed

## 3.51 STM32CubeMX V4.1 release information

### 3.51.1 New features

STM32CubeMX now fully supports the STM32F2 family.

### 3.51.2 Enhancements

None.

### 3.51.3 Known problems and limitations

- Clock and peripheral configuration and the associated code generation is only supported for the STM32F4 and STM32F2 Series, using the STM32Cube Firmware library
- Power consumption calculation is only supported for the STM32F4, STM32F2 and the STM32L1 Series
- PPP and SLIPIF can be configured in the LWIP library but the generated code doesn't have all the required links to the hardware interface
- The list of files to compile in the project, may not be correctly updated after a second code generation, with less peripherals or middleware. Although the files are removed in the project folder, they still appear in the project list. These files have to be manually removed from the list in the IDE

## 3.52 STM32CubeMX V4.0 release information

### 3.52.1 New features

STM32CubeMX has the following key features:

- **Easy microcontroller selection** covering whole STM32 portfolio
- **Easy microcontroller configuration** (pins, clock tree, peripherals, DMA, interrupts, middleware) and generation of the corresponding initialization code
- **Generation of configuration reports**
- **Generation of IDE ready projects** for a selection of integrated development environment tool chains  
STM32CubeMX projects include the generated initialization code, STM32 HAL drivers, the middleware stacks required for the user configuration, and all the relevant files needed to open and build the project in the selected IDE
- **Power consumption calculation** for a user-defined application sequence
- **Self-updates** allowing the user to keep the STM32CubeMX up-to-date
- **Downloading and updating STM32Cube firmware packages** allowing the download from [www.st.com](http://www.st.com) of the MCU firmware package required for the development of the user application

### 3.52.2 Enhancements

STM32CubeMX 4.0 is a major new release of MicroXplorer 3.2 adding the full generation of code for STM32F4 Series and integration into the STM32Cube ecosystem.

### 3.52.3 Known problems and limitations

- Clock and peripheral configuration and the associated code generation is only supported for the STM32F4 Series using the STM32Cube Firmware library
- Power consumption calculation is only supported for the F4 and the L1 Series
- PPP and SLIP are configured in the LWIP library but the generated code won't have all the required link to the hardware interface

## 4 Revision history

**Table 84. Document revision history**

| Date          | Revision | Changes                                                                                                                                                                                                                                                                               |
|---------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 17-Feb-2014   | 1        | Initial release.                                                                                                                                                                                                                                                                      |
| 27-Mar-2014   | 2        | Release for STM32CubeMX 4.1<br>Added <a href="#">Release information for previous releases</a> to trace content from the previous releases.<br>Added Cube logo                                                                                                                        |
| 24-Apr-2014   | 3        | Added information related to STM32CubeMX 4.2                                                                                                                                                                                                                                          |
| 19-Jun-2014   | 4        | Added information related to STM32CubeMX 4.3.<br>Added Eclipse plug-in in <a href="#">Section 1.2: Host PC system requirements</a><br>Updated <a href="#">Section 3.24.3: Known problems and limitations</a> and <a href="#">Section 3.25: STM32CubeMX V4.2 release information</a> . |
| 05-Aug-2014   | 5        | Added information related to STM32CubeMX 4.3.1 as well as <a href="#">Section 3.24: STM32CubeMX V4.3 and 4.3.1 release information</a> .                                                                                                                                              |
| 16-Sep-2014   | 6        | Added information related to STM32CubeMX 4.4.0.                                                                                                                                                                                                                                       |
| 21-Oct-2014   | 7        | Added information related to STM32CubeMX 4.5.0.                                                                                                                                                                                                                                       |
| 15-Jan-2015   | 8        | Added information related to STM32CubeMX 4.6.0.                                                                                                                                                                                                                                       |
| 20-March-2015 | 9        | Added information related to STM32CubeMX 4.7.0.                                                                                                                                                                                                                                       |
| 27-Apr-2015   | 10       | Added information related to STM32CubeMX 4.7.1.                                                                                                                                                                                                                                       |
| 28-May-2015   | 11       | Added information related to STM32CubeMX 4.8.0.                                                                                                                                                                                                                                       |
| 07-Jul-2015   | 12       | Added information related to STM32CubeMX 4.9.0.                                                                                                                                                                                                                                       |
| 25-Aug-2015   | 13       | Added information related to STM32CubeMX 4.10.0.                                                                                                                                                                                                                                      |
| 24-Sep-2015   | 14       | Added information related to STM32CubeMX 4.10.1 minor release.                                                                                                                                                                                                                        |
| 15-Oct-2015   | 15       | Added information related to STM32CubeMX 4.11.0                                                                                                                                                                                                                                       |
| 27-Nov-2015   | 16       | Added information related to STM32CubeMX 4.12.0.                                                                                                                                                                                                                                      |
| 03-Feb-2016   | 17       | Added information related to STM32CubeMX 4.13.0.                                                                                                                                                                                                                                      |
| 03-Mar-2016   | 18       | Added information related to STM32CubeMX 4.13.1.                                                                                                                                                                                                                                      |
| 16-Mar-2016   | 19       | Added information related to STM32CubeMX 4.14.0.                                                                                                                                                                                                                                      |
| 19-May-2016   | 20       | Added information related to STM32CubeMX 4.15.0.                                                                                                                                                                                                                                      |
| 08-Jun-2016   | 21       | Added information related to STM32CubeMX 4.15.1.                                                                                                                                                                                                                                      |
| 12-Jul-2016   | 22       | Added information related to STM32CubeMX 4.16.0.                                                                                                                                                                                                                                      |
| 22-Jul-2016   | 23       | Added Table 1: STM32CubeMX 4.16.0 release summary.                                                                                                                                                                                                                                    |
| 30-Aug-2016   | 24       | Added information related to STM32CubeMX 4.16.1.                                                                                                                                                                                                                                      |
| 06-Oct-2016   | 25       | Added support for code generation using the HAL low-layer (LL) library.                                                                                                                                                                                                               |

Table 84. Document revision history (continued)

| Date        | Revision | Changes                                                                                                                                                        |
|-------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 21-Nov-2016 | 26       | Added information related to STM32CubeMX 4.18.0.<br>Updated the supported operating systems list in <a href="#">Chapter 1.2: Host PC system requirements</a> . |
| 10-Jan-2017 | 27       | Added information related to STM32CubeMX 4.19.0.                                                                                                               |
| 27-Feb-2017 | 28       | Added information related to STM32CubeMX 4.20.0.                                                                                                               |
| 24-Mar-2017 | 29       | Added information related to STM32CubeMX 4.20.1.                                                                                                               |
| 05-May-2017 | 30       | Added information related to STM32CubeMX 4.21.0.                                                                                                               |
| 06-Jul-2017 | 31       | Added information related to STM32CubeMX 4.22.0.                                                                                                               |
| 04-Sep-2017 | 32       | Added information related to STM32CubeMX 4.22.1.                                                                                                               |
| 17-Oct-2017 | 33       | Added information related to STM32CubeMX 4.23.0.                                                                                                               |
| 12-Jan-2018 | 34       | Added information related to STM32CubeMX 4.24.0.                                                                                                               |
| 6-Mar-2018  | 35       | Added information related to STM32CubeMX 4.25.0.                                                                                                               |
| 3-May-2018  | 36       | Added information related to STM32CubeMX 4.25.1.                                                                                                               |
| 31-May-2018 | 37       | Added information related to STM32CubeMX 4.26.0.                                                                                                               |
| 16-Jul-2018 | 38       | Added information related to STM32CubeMX 4.26.1.                                                                                                               |
| 6-Sep-2018  | 39       | Added information related to STM32CubeMX 4.27.0.                                                                                                               |
| 12-Nov-2018 | 40       | Added information related to STM32CubeMX 5.0.0.                                                                                                                |
| 15-Nov-2018 | 41       | Updated <a href="#">Table 4: Firmware package versions in V5.0.0</a> .                                                                                         |
| 20-Dec-2018 | 42       | Added information related to STM32CubeMX 5.0.1.                                                                                                                |
| 21-Feb-2019 | 43       | Added information related to STM32CubeMX 5.1.0.                                                                                                                |
| 16-Apr-2019 | 44       | Added information related to STM32CubeMX 5.2.0.                                                                                                                |
| 24-May-2019 | 45       | Added information related to STM32CubeMX 5.2.1.                                                                                                                |
| 11-Jul-2019 | 46       | Added information related to STM32CubeMX 5.3.0.<br>Added <a href="#">Section 1.3: Cross-selector data disclaimer</a> .                                         |
| 9-Oct-2019  | 47       | Added information related to STM32CubeMX 5.4.0.                                                                                                                |
| 27-Dec-2019 | 48       | Added information related to STM32CubeMX 5.5.0.                                                                                                                |
| 20-Feb-2020 | 49       | Added information related to STM32CubeMX 5.6.0.                                                                                                                |
| 10-Apr-2020 | 50       | Added information related to STM32CubeMX 5.6.1.                                                                                                                |
| 24-Jul-2020 | 51       | Added information related to STM32CubeMX 6.0.0.                                                                                                                |
| 11-Aug-2020 | 52       | Added information related to STM32CubeMX 6.0.1.                                                                                                                |
| 13-Nov-2020 | 53       | Added information related to STM32CubeMX 6.1.0.                                                                                                                |
| 15-Dec-2020 | 54       | Added information related to STM32CubeMX 6.1.1.                                                                                                                |
| 23-Feb-2021 | 55       | Added information related to STM32CubeMX 6.2.0.                                                                                                                |
| 26-Mar-2021 | 56       | Added information related to STM32CubeMX 6.2.1.                                                                                                                |

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