

RELEASE NOTES

SMARTRAY DEVKIT 5.5.1.41 updated on March 10th 2022



SDK Version Details

Software	Latest Version
API	5.5.1.41
Studio 4	5.5.1.41
3 rd Party Drivers	5.5.1.41

Recommended Firmware Version

3D Sensor Series	Firmware Version
ECCO 65	5.2.2.12
ECCO 95	5.1.4.5
ECCO 95+	5.2.2.27
Dual-Head ECCO 95+ (Limited Release)	5.2.2.27

1. What's new? | SmartRay DevKit 5.5.1.41

1. Support for new SmartRay Sensor MICO 40



MICO 40

API

- MSR/DualHead: Added two new merge modes based on laser line thickness (LLT), see file *SR_API_Types.h* below.
- Missing SmartX features handled in API by returning `ERR_SR_API_FUNCTION_NOT_AVAILABLE`.
- Added missing C#-API functions
- Changing the default Laser Mode from Continuous to Pulsed in parameter-sets files of ECCO 65, ECCO 85, ECCO 95, ECCO 95 Plus, Dual-Head ECCO 95

SR_API_Types.h

New enum entries

```
typedef enum MSRMergeModeType
{
    ...
    MSRMergeModeType_MinimumLLT,
    MSRMergeModeType_MaximumLLT
};
```

Studio 4

- Extended firmware check for new sensor series
- Increase precision of Tilt (Pitch) Angle configurable by Customers
- Changed labels/visibility for new models 65/75

Installer

- Created ECCO65 parameter sets

2.Fixed issues

API

- Reduced memory consumption of API by about 320MB
- Increased stability in handling several sensors in parallel
- Updated method in calculating Z-map borders (SR_API_GetZmapDimensions)
- Bug fix of re-setting the External Trigger Divider parameter to 1
- Fix of SmartXtract memory leak
- Improvement of sensor disconnection and connection functionality
- Clear first profiles only with external start trigger or at first sequence
- Fixed sample memory leak
- Fixed problems with reconnection mechanism
- bugfix in C# wrapper when using same SRSensor object to connect to different sensor after disconnecting
- more sensitive way of ZMap creation to keep more points of top artefact

Studio 4

- Fixed race condition for showing captured data in Studio 4
- Fixed freeze mode for graph analysis (regression)
- Disabled image scanner after live image acquisition (avoids crash)
- Fixed issue with continuous run for small number of profiles to capture
- Default ROI is pre-defined now
- Image scanner slide bar and other graphical analysis options are enabled now when perspective is changed from PIL --> ZIL

MVTec Halcon Driver

- bugfix in MVTec Halcon driver,
 - solved problem of generating sensor XML description file
 - solved issue when disabling Reflection filter mode

3. Known Issues | SmartRay DevKit 5.5.1.41

Studio 4

1. The maximum number of 3D Profiles that can be captured is limited to 10,000 due to software limitations
2. The maximum number of profiles is further limited in the following scenarios:
 - i. Limited to 5000 when capturing & visualizing Z-Map with:
 - ...an ROI-Width > 1272
 - ...the sensor configured to capture Profile, Intensity and LaserLineThickness
 - ii. Limited to 4000 for 3D Capture (Repeat Snapshot| Run Continuous) mode
 - iii. Limited to 1500 when
 - Apply Post-Processing after every Profile is enabled (Quick Setup | Post Processing)
 - iv. Limited to 1000 when
 - Live Update is enabled for 3D Visualization
 - Apply Post-Processing after every Profile is enabled (Quick Setup | Post Processing)
3. MSR does not support multi-exposure
4. Studio 4 does not respond or could lead to crash when operated in repeat Snapshot/ Run Continuous acquisition mode for no. of profiles < 100.

3rd Party Drivers

MVTEC HALCON Driver

1. Due to limitations in HDevelop, it is not possible to configure “Z-Map Tuner settings”, i.e. (Z-Map Vertical Resolution & Z-Map Lateral Resolution) with a precision greater than 3 decimal places
 - i. Example: It is not possible to enter 0.002 mm, 0.0016 mm, etc, directly in HDevelop user interface
 - ii. Workarounds:
 - Please configure the desired Z-Map Tuner settings using HDevelop script
 - Save Parameter Set (*.par) with the needed Z-Map Tuner values from Studio 4 and export this Parameter Set (*.par) and use it in your HALCON application
2. HALCON Driver does not support Parameter Set (*.par) names which start with a numeric character. In such cases, the HALCON Driver will not be able to connect to the sensor
 - i. Example of invalid parameter set names for HALCON Driver:
 - ii. 3D.par, 2D.par, 8ABCD.par
3. In the following multi-sensor acquisition scenario:
 - i. Two sensor setup – Sensor 1 & Sensor 2
 - ii. Two HDevelop instances – HDevelop 1 and HDevelop 2
 The data from Sensor 2 is sporadically not received/acquired/grabbed by HDevelop instance 2
4. In the following multi-sensor acquisition scenario:
 - i. Two sensor setup – Sensor 1 & Sensor 2
 - ii. One HDevelop instance – HDevelop 1
 The data from Sensor 2 is not received. To overcome this issue (temporary work-around), it is recommended to configure Sensor 1 and Sensor 2 with the same Number of Profiles to Capture

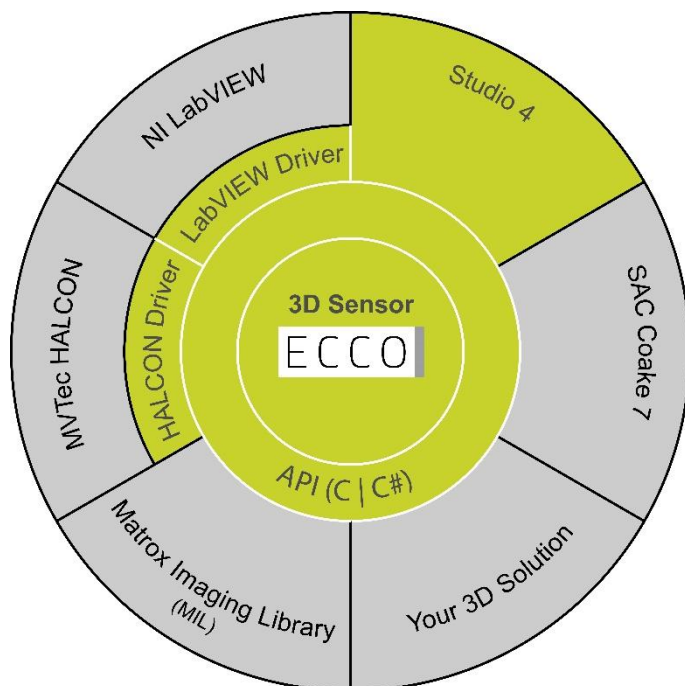
NI LabVIEW Driver

1. It is not possible to capture Live Image data from the LabVIEW Driver
2. Multi-Sensor Registration (MSR) functionality is currently not supported by LabVIEW Driver
3. There is no LabVIEW example (VI) implemented to demonstrate Multi-Exposure (up to 4 exposure times) feature for ECCO 95 series. Please get in touch with your technical SmartRay contact person for support if necessary, by writing to support@smartray.com

Previous Release

RELEASE NOTES

SMARTRAY DEVKIT 5.5.1 REV 1 | updated on 10th December 2020



SDK Version Details

Software	Latest Version
API	5.5.1.24
Studio 4	5.5.1.24
3 rd Party Drivers	5.5.1.24

Recommended Firmware Version

3D Sensor Series	Firmware Version
ECCO 65	v5.2.0.8 and above
ECCO 95	v5.1.1.3 and above
ECCO 95+	v5.2.0.2 and above
Dual-Head ECCO 95+ (Limited Release)	v5.2.0.2 and above

What's new? | SmartRay DevKit 5.5.1


Key Highlights


1. Support for new SmartRay Sensor ECCO 65




2. Default laser mode is changed from Continuous to Pulsed.
3. No SDK Support for ECCO 35, ECCO 55 and ECCO 75 Series

IMPORTANT NOTICE
 SDK 5.5 is the last version to support ECCO 35, ECCO 55 and ECCO 75 series

 ECCO 35

 ECCO 55

 HD
ECCO 75

For any commercial or technical questions related to this, please get in touch with your sales contact person at SmartRay.

SDK Installer v5.5.1.24

1. New default Parameter Set folders are part of installation to support ECCO 65 and upcoming SmartRay sensor Models.

API v5.5.1.24

1. **NEW:** Two new merge modes are available based on laser line thickness (LLT) for MSR/Dual-Head
 - i. MSRMergeModeType_MinimumLLT
 - ii. MSRMergeModeType_MaximumLLT
2. **NEW:** Below API functions are now available in C# API too which were missing in C# API and available in C++ API in SDK 5.5.0.91
 - i. SR_API_SetPrefilterDefault(...)
 - ii. SR_API_SetPrefilterLaserLineThickness(...)
 - iii. SR_API_GetPrefilterLaserLineThickness(...)
 - iv. SR_API_OutlierFilter_2DHeight (...)
3. **NEW:** Missing **SmartX™** features are handled in API by returning ERR_SR_API_FUNCTION_NOT_AVAILABLE
4. **NEW:** Default laser mode is changed from Continuous to Pulsed.
5. **Bug Fixes:**
 - i. Memory consumption of API is reduced by about 320 MB.

API Samples v5.5.1.24

No changes from version SDK 5.5.0.91

Studio 4 v5.5.1.24

1. **NEW:** **SmartX™** features are deactivated for ECCO 65 series.
2. **NEW:** Precision of Tilt (Pitch) Angle is increased.
3. **IMPROVEMENT:** **SmartXpress™ Configuration** tool improved
The performance (latency) when navigating between Studio 4 and SmartXpress Configurator has been optimized for better user experience.
4. **Bug Fixes:**
 - I. Fixed freeze mode in the Graphical Analysis tab.
 - II. Image scanner in graphical analysis is disabled to avoid crash in studio 4 if there is no data to show.
 - III. Fixed in existing race condition to avoid shifts in 3D profile data in studio 4.
 - IV. Default ROI is now predefined in studio 4 if full resolution is not desired.

3rd Party Drivers v5.5.1.24

MVTec HALCON Driver

No changes from version SDK 5.5.0.91

NI LabVIEW Driver

No changes from version SDK 5.1 SP2



Known Issues | SmartRay DevKit 5.5.1

API

1. Starting & Stopping Acquisition repeatedly (i.e. Start Acquisition – Capture 3D Data – Stop Acquisition) in a multi-sensor setup with ECCO 95 series could sporadically lead to a sensor disconnect after a certain time

Studio 4

5. The maximum number of 3D Profiles that can be captured is limited to 10,000 due to software limitations
6. The maximum number of profiles is further limited in the following scenarios:
 - i. Limited to 5000 when capturing & visualizing Z-Map with:
 - ...an ROI-Width > 1272
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