

CUVIS 3.3.0

Release

Topics to be discussed

01. Scope
02. Differences: CubertFuchsia vs Cuvis
03. Need-to-know
04. SDK & OEM customers

SCOPE

- Version 3.3.0 vs prev. versions
- Learn key differences
- Outlining basic options and troubleshooting, bug reporting
- Learn what the SDK is capable of
- NRE development with SDK - do's and don'ts
- Proper problem tracking

Key Differences: CubertFuchsia vs Cuvis

	Feature	CUVIS 2.9.1 Fuchsia	CUVIS 3.2.1 Ginger	CUVIS 3.3.0 Ginger	rem.
G U I	Simple GUI for ease of use	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	GUI Dark mode	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	*
	GUI bright mode	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	*
	GUI Colorblind mode	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	*
	Gui optimized for better outdoor visibility	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	*
	Programmable Live View Modes (XML adjustable)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Integrated S.A.M. "Classifier"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Per Class Integration	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Gallery View	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Explorer Thumbnails (Win)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Simple Export from gallery	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Integration of advanced Export Tool	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Warning for poor data Quality	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Detailed warnings (xx % of data is overilluminated)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Key Differences: CubertFuchsia vs Cuvis

	Feature	CUVIS 2.9.1 Fuchsia	CUVIS 3.2.1 Ginger	CUVIS 3.3.0 Ginger	rem.
B a c k e n d	write Multifile Data format (CU3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	write Single file data format (CU3s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Hyperspectral Video file Format (CU3s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Supports CU3C calibration format	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Reduced storage footprint	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	read CU3 dataformat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	read CU3s dataformat	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Reduced camera latency	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Improved processing speed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Processing on GPU (optional)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Image Throughput Ultris X20 plus on UAV (Pokini F2)	typ. 1.2Hz	typ. 3Hz	typ. 3Hz	
	Improved Backend status Information	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Multilanguage support (de,en,cn,esp,fr,...)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	optional Hardware Binning (2x2, for improved speed)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	**
	optional 8-Bit mode for fast recording	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Performance profiling	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Restore camera and references from CU3s file	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	**
	Demo Mode from CU3s file	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	**
	Ubuntu 20.04 support	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Ubuntu 22.04 support	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Key Differences: CubertFuchsia vs Cuvis

	Feature	CUVIS 2.9.1 Fuchsia	CUVIS 3.2.1 Ginger	CUVIS 3.3.0 Ginger	rem.
S D K	SOAP Client	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	***
	SDK C	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	SDK C++	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	SDK C#	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	*****
	SDK Matlab	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	**** *****
	SDK Python	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	access to Community Hub (Open Source Code of Applications)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Demo Mode from CU3s file (Dummy Camera)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Ubuntu 20.04 support	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Ubuntu 22.04 support	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Feature	CUVIS 2.9.1 Fuchsia	CUVIS 3.2.1 Ginger	CUVIS 3.3.0 Ginger	rem.
D O C S	HARDWARE Documentation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	CUVIS Documentation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	SOAP Documentation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	***
	SDK "Doxygen" Documentation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	QUICK GUIDES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	CAD CAMERA FILES (step files)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Need to know! (v 2.9.x => v. 3.x)

Installation

- Different path! Default: c:\Program Files\Cuvis
- If installed without camera, core will start up as "Demo mode"
- Older Factory file installer don't know about this!
 - Manually copy from
 - c:\Program Files\CubertFuchsia\bin\factory to c:\Program Files\Cuvis\factory
 - C:\Program Files\CubertFuchsia\Bin\user\settings to c:\Program Files\Cuvis\user\settings
- Newer Installers will prefer Cuvis over CubertFuchia, by default
- *CU3C calibration files* only work with 3.3.0+

Need to know!

Camera Performance

- **Still same:**
 - Need to configure the *.settings files, e.g. ultirs20.settings
 - Most importantly: PacketDelay!
 - Beware: different file location (see prev. slide)

Need to know!

Where is Core (cuvis_core.exe)?

- Output in local language (EL,DE,EN,ES,FR,UK,ZH,AR,NL,HE)
- or: start Core before Touch
- debug log file always (over-)written (log file %ProgramData%/cuvis)

Any performance issues with core?

- Enter CTRL+C to enter "context menu"
- See if any buffer runs full
- Enable worker profiling (via settings)

Need to know!

How to configure Touch?

- **CuvisTouch.exe.config**
 - Set core command line arguments here!
 - Set Savitzky-Golay filter here
 - ...

Need to know!

Exporting?

- Exporter is a separate UI now!
- It has a separate log file

Command line exporter is for the pros (everyone at cubert!)

- See separate training

SDK !?!?

What is an SDK?

- SDK stand for “Software Development Kit”
- It’s for software developers and system integrators!
- You need to be able to program!

What is isn’t...

- Alone, the SDK does nothing.
- Adaptations and Customizations are still difficult to do (& expensive)

SDK ?!?!

How to obtain the SDK?

- Paying customers have all SDK with the installer
- SDK can be downloaded from GitHub for free

How it is supported?

- Difficult question
 - Programming support => Paid Training and NRE development time
 - Bug reporting => For paying customers, only

SDK ?!?!

Hard facts

- Cuvis SDK is a SDK written in C
- Wrappers exist to C++, C#, Python and Matlab (“translators”)
- C# and Matlab deprecated

SDK ?!?!

Can I build a machine/application based on the SDK?

- Yes, that's the whole point of
 - Fully binary upwards compatible between minor revisions (eg. from 3.3.0 to 3.3.1)
- Example <https://cuvis.cubert-hyperspectral.com/> uses python wrapper

OEM customers

Yes, we love OEM projects

Special cameras might be taken out from updates

Thank you