Veronte Link

Release 6.8.33

Embention

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8 LINK

Veronte Link interconnects multiple control stations and autopilot units, so they can operate simultaneously.

CHAPTER

QUICK START

Veronte Link establishes **communication between a computer and any Veronte product** by creating a **VCP bridge**. It allows to use multiple control stations and autopilots to be interconnected, operating simultaneously.

Veronte Link also includes a **post-flight viewer**, to reproduce all recorded data from previous flights and generate plots and reports.

Veronte Link supports the main Operating Systems (Windows, Linux and MacOS X). Contact Embention and we will provide you with the software that better fits your requirements. Also, you must have updated the latest version of java.

1.1 System Requirements

Before executing this software, users should check the following sections with the minimum and recommended PC hardware requirements.

Minimum requirements

- CPU: Intel Core i5-8365UE
- RAM: 8 GB DDR4
- STO: 256 GB SSD

Recommended requirements

- CPU: 12th Gen Intel(R) Core(TM) i7-12700H 14 cores hasta 4,70 GHz
- RAM: 32,0 GB
- STO: 1TB SSD M.2 NVMe PCIe

1.2 Installation

Once a Veronte device has been purchased, a GitHub release should be created for the customer with the application.

To access to the release and download the software, read the Releases section of the **Joint Collaboration Framework** manual.

To install Veronte Link on Windows, execute Veronte Link.exe and follow the steps:

1. Click on Next:



Fig. 1: Windows Installation - Step 1

2. Read and accept the EULA (End-User License Agreement):

🖟 VeronteLink Setup —	-		\times
End-User License Agreement			
Please read the following license agreement carefully			S
END USER LICENSE AGREEMENT			Â
(EULA)			
IMPORTANT: Please read the product terms and condition	ns tha	at	
follow, before downloading, installing, copying or using t	he		
product, it is important that you read and understand this			
document in its entirety. BY DOWNLOADING, INSTALLING	, COF	YING	i
TERMS AND CONDITIONS.		IEGE	v
✓ I accept the terms in the License Agreement			
Print Back Next		Car	ncel

Fig. 2: Windows Installation - Step 2

3. Select the directory where where the software will be installed (with the **Change** button), then click on Next:



Fig. 3: Windows Installation - Step 3

4. Finally, click on **Install** (administrator rights are needed):



Fig. 4: Windows Installation - Step 4

5. After a few seconds, the following window will appear indicating the process was succesful. Click on Finish:



Fig. 5: Windows Installation - Step 5

Note: In case of any issue during installation, please disable Windows Defender and Firewall. To disable Firewall, go to "Control Panel" and "Firewall of windows", then click on **Turn off**.

6	Windows Defender Firewall				-	×
<	→ × ↑ 💣 > Control Pane	I → System and Security → Windows Defender Firew	all	~ Ō	Search Control Panel	P
	Control Panel Home					
	Allow an app or feature through Windows Defender	Windows Defender Firewall can help to prevent hack through the Internet or a network.	ers or malicious software from gaining access to your PC			
•	Firewall Change notification settings	Private networks	Not connected \odot			
6	Turn Windows Defender Firewall on or off	Guest or public networks	Connected 🔗			
•	Restore defaults	Networks in public places such as airports or cafés				
9	Advanced settings	Windows Defender Firewall state:	On			
	Troubleshoot my network	Incoming connections:	Block all connections to applications that are not on the list of allowed applications			
		Active public networks:	TRed Red			
		Notification state:	Notify me when Windows Defender Firewall blocks a new app			
	See also					
	Security and Maintenance					
	Network and Sharing Centre					

P Customise Settings		-	×
← → × ↑ 🔗 > Control Panel > System and Security > Windows Defender Firewall > Customise Settings	~ Ō	Search Control Panel	٩
Customise settings for each type of network You can modify the firewall settings for each type of network that you use.			
Private network settings Orum on Windows Defender Firewall Block all incoming connections including those in the list of allowed applications			
Notify me when Windows Defender Firewall blocks a new app			
Public network settings Im on Windows Defender Firewall Block all incoming connections, including those in the list of allowed applications Votify me when Windows Defender Firewall blocks a new app Image: The provide the provided of the provided			
OK Cancel			

CHAPTER

TWO

OPERATION

In order to stablish a connection between a Veronte device and a PC with Veronte Link, follow the steps:

1. Connect the device to a PC via Serial (USB, RS232 or RS485) or UDP (Wifi or Ethernet).



Fig. 1: **PC-Veronte device connection**

- 🔗 Veronte Link (v6.8.33) 1 **#**L Øk 8 ۹ Connection °ह° Sessions 9 SS 😂 🗙 1x - 1599 v.6.8.126 - Port: /127.0.0.1:56777 al mode 🔵 CFG: Ready No No 10 Terms and Co * 15 6
- 2. Open Veronte Link, then a similar image to the following should be displayed:

Fig. 2: Veronte Link interface - Devices menu

- 1. Devices: This is the currently displayed menu. It shows the devices connected to the PC.
- 2. Veronte Link version: Informs the user about the version of the software being used.
- 3. **Connection**: This menu allows the user to configure the connection between the PC and a Veronte device. See *Connection* section for more information.
- 4. Sessions: In this menu users can play back recorded logs and flights. See *Sessions* section for more information.
- 5. Launch: Users can access Veronte FDR from here.
- 6. Host: Allows connecting to the local IP address or to another desired IP address.
- 7. Find all: Runs a discovery to all devices.
- 8. Sort list: Click on it to sort the list of devices.
- 9. Search from ID: Searches for a specific device by its ID. Entering the ID 999 will search for all devices.
- 10. Delete device: Only works after disconnecting the device.

Note: Only available if a device is connected or has been connected.

11. Refresh device: It is recommended to use in case of any connection error.

Note: Only available if a device is connected or has been connected.

- 12. Open VeronteOps: From here users can access Veronte Ops on the same version of the connected device.
- 13. Dark/light mode: Switches to light/dark mode, changing the display mode of the interface.
- 14. Switch particles: Particles can be on or off, changing the application appearance.
- 15. **Terms and Conditions**: Users can consult the 'End User License Agreement (EULA)' by simply clicking on this button.
- 16. Configuration status: It can be:
 - CFG: Waiting to read
 - CFG: Reading conf
 - CFG: Ready
 - CFG: Failed load conf
 - CFG: Not Downloaded
 - *CFG: Not compatible*
- 17. Device status: Can be in Normal mode, Maintenance mode or Loaded with errors.
- 18. Connection status: It can be Connected or Disconnected.
- 19. Veronte device: Here is displayed an image of the Veronte device that is connected.

Important: Once Veronte Link is executed, an icon will appear in the taskbar and a browser window will open.



Fig. 3: Veronte Link icon

To **close** the application, it is not enough to close the browser window, it is necessary to **right-click** on the icon and select **Close**.

If the browser window is closed, it can be accessed again by selecting the **Open** button.

2.1 Connection

In this menu users must **configure the connection type** of the Veronte device.

VeronteLink		^	🏟 E 👘	- 🗆 ×
	⊗ Veronte Link (v6.8.33)	s? Launch	Ø loca	alhost
	ב ² Devices \$\$ Connection \$\$ Sessions		+	F
	No connections found			
	© Embention		8	*
•				

Fig. 4: Connection menu

Clicking on the '+' icon will display the **configuration** panel. The parameters to be configured depend on the type of connection selected:

Warning: Apart from **Type** and **Port** parameters, it is not recommended to modify the default configuration, as the default parameters should work correctly.

• Serial: USB, RS232 or RS485 connections.

New connect	tion
SERIAL	-
SERIAL configu	Iration
Port	-
Baudrate	•
Parity	•
Flow control	•
Data bits	•
Stop bits	•
Advanced	^
Reconnect time	×
Disconnect time	×
	Cancel Save

- **Port**: Select the port of the computer to which the device is connected. It does not have to be the same as the one in the example image (*Veronte Link interface* image).

More information about the port where the device is connected is explained in *Serial connection* - *Integration examples section*.

- **Baudrate**: This field specifies how fast data is sent over a serial line.
- **Parity**: Is a method of detecting errors in transmission.

When parity is used with a serial port, an extra data bit is sent with each data character, arranged so that the number of 1 bits in each character, including the parity bit.

The available options are EVEN, MARK, ODD, SPACE and NONE.

- Flow Control: RTS/CTS and XON/XOFF control can be configured if needed.
- Data Bits: Defines the number of bits in the message. It can be configured from 5 to 8 bits.
- Stop bits: Number of stop bits sent at the end of every character. Can be 1, 1.5 or 2.
- Advanced:
 - * **Reconnect time**: The time to consider a device reconnected. Default is set to 10 seconds.
 - * **Disconnect time**: Time to consider a device disconnected is defined here. 1 second is configured by default.
- UDP: Ethernet, Wifi and Pipecloud connections through 4G.

New conne	ection
UDP	~
UDP configu	ration
Address	
239.0.0.1	
C Port	
12345	
π	×
	Cancel Save

Fig. 6: UDP connection configuration

- Address: IP address, normally set to 239.0.0.1 (for broadcast) or 127.0.0.1 (for local).
- **Port**: IP Port must be set.
- TTL: Time To Live, is the maximum amount of time or 'hops' that a UDP packet can exist inside a network before being discarded by a router.

A default value should automatically be set.

• Planet: Satellital connections, it requires internet connection.

Nev	v connec	ction		
PLA	NET		-	
	NET config	guration		
		Cancel	Save	

Fig. 7: Planet connection configuration

- Satcom ID must be set.

Finally, click on Save.

Note: In case of not getting the device connected, make sure that the PC acquires a *communication port*.

2.2 Sessions

Sessions tab displays all finished device sessions.

Note: Sessions that are currently being recorded will not be displayed.

The following image and list describe each functionality.



Fig. 8: Sessions menu

- 1. Session name: It is made with recording time (date and hour).
- 2. **Delete session**. If the user wishes to delete more than 1 session at a time, it is possible to delete them from the **Veronte Link sessions folder** located in the following path:

C:\Users\USER NAME\AppData\Roaming\VeronteLink\sessions

- 3. Files weight.
- 4. Duration.
- 5. Play/Pause: Play button creates a virtual device similar to the following figure:

VeronteLink			^	8 E	—	□ ×
S Veronte Link	(v6.8.33)		🝠 Launch	Ø loc	alhost	
₹ Devices	🕏 Connection 🛛 😵 Se	essions	6pð	٩	Ŧ	
	1x - 4123 v.6.8.116 - Port: Virtual Device Connected Normal mode	(4123_2023.03.03.11.36.01)				
🖉 © Embention	n 🕺 Terms and Conditio	ns		8	*	
•						

Fig. 9: Virtual device

It starts a simulation replaying everything that happened during the session recording. It will recreate all the ocurred events with detail and Veronte Ops will display the corresponding data and trajectories; read the Veronte Ops user manual for more information.

Note: In addition, when the virtual device is in a ready state, users can open the 1x PDI Builder software and download the configuration (PDI files).

- 6. Stop: It stops playing the session. It does not delete the session.
- 7. **Speed**: Playing speed can be selected as x0.5, x1, x2, x4 and x8.
- 8. Display bar: Click and drag to replay any moment.

CHAPTER

THREE

INTEGRATION EXAMPLES

3.1 Serial connection

As the com port configuration is common to all devices, the following steps are applied to MC24 and MC110 controllers as an example.

1. Once Veronte Link is installed, the first step that must be done is to set the connection that your MC unit is currently using. By default, every MC is capable to comunicate through USB, RS232 and RS485 so any of these can be used (properly adapted to USB/serial).

First, click on "+":

te	Veronte Link (v6.8.33)		* •		<u> </u>		🖋 Laui	nch & localhost
₽ 1	Devices Connection	₹€ Sessions						+ =
	X Y				•			Add new connection
•	Сом10	¢ ×	Сомб	¢ ×	COM14	¢ ×	COM23	¢ ×
•	COM13	\$ ×	COM25	¢ ×	COM8	¢ ×	COM15	¢ ×
•	COM27	* ×	COM26	¢ ×	COM28	¢ ×		¢ ×
•	COM16			СОМ9	¢ ×	COM1	7	¢ ×

Fig. 1: Add new connection

2. Besides, it is required to find out which port is employing the MC unit. Windows allows to do that with the **Device Manager** from the **Control Panel**.



Fig. 2: Windows Device Manager

3. Select your COM settings by entering the comm port previously found. Normally, the other default parameters should not be changed.

New connecti	on
SERIAL	•
SERIAL configura	ation
СОМ7	•
Baudrate	
115200	•
Parity	
NONE	•
Flow control	
NONE	
Data bits	
8	
Stop bits	
1	• I
ſ)
	Cancel Save

Fig. 3: New connection configuration

4. If the selected port is correct and everything went well, a new MC will be displayed in the devices list. However, the *device status* will remain as **CFG: Waiting to read**.

The user is ready now to start configuring the motor controller using MC PDI Builder.

VeronteLink		* * : =	□ ×
	S Veronte Link (v6.8.33)	a Launch 🖉 localhost	
	Connection 	°Tª Q ₹	
	MC 110 - 999 v.6.8.97 - Port: COM7 Connected Normal mode CFG: Waiting to read	S 2 ×	/
	🔹 © Embention 🖓 Terms and Conditions	88 €	
I			

Fig. 4: MC unit correctly connected

More Veronte devices (MC units, Veronte Autopilots, etc.) could be added following these instructions.

Note: In case of connecting an Autopilot 1x, after a few seconds, the *device status* should replace CFG: Waiting to read by CFG: Ready, since only autopilot 1x is able to change or load configuration in normal mode.

Second terms (v6.8.33) Second terms (v6.8.33) Second terms (v6.8.33)	
Zevices ✿ Connection ⁹ 2 [®] Sessions I*T* Q =	
1x - 4086 v.6.8.116 - Port: COM3 Connected Normal mode CFG: Ready	
© Embention	



3.2 UDP connection

Wi-Fi/Ethernet configuration

The following steps are applied to a **PCS** unit as an example.

Important: If connecting through Ethernet, step 1 does not apply.

- 1. The first step is to look under available networks for the PCS unit and connect to it.
- 2. Once the connection is made, enter Veronte Link and configure the UDP connection in the **Connection menu**. First, click on "+":

onteLink				^	* E	—		×
🔗 Veronte Li	Veronte Link (v6.8.33)		*	🕈 Launch	Øla	ocalhost		1
₽ Devices		⁹ € Sessions			+	F	H	1
No conne	ctions found		•		Add new connec	ction	7	
	•••			Y				
🧧 © Embent	ilon 🛛 👌 Terms ar	nd Conditions			88	L		
		1	•					
		`		•				

Fig. 6: Add new connection

3. Then, the configurable parameters must be entered.

New connect	tion •
	ion
Port	
TTL	×
	Cancel Save

Fig. 7: New UDP connection configuration

Important: This address and port are configured for this PCS unit, they do not have to be the same for another device.

4. If the configured connection is correct and all went well, a new PCS will appear in the device list and the *device status* will change to **CFG: Ready**.

The user is ready now to start configuring the PCS using 1x PDI Builder.

VeronteLink		^	 E 	-	□ ×
	S Veronte Link (v6.8.33)	🖋 Launch	Ø loca	alhost)•
		6 L .)	٩	Ŧ	
-	1x - 4086 v.6.8.116 - Port: 239.0.0.1:12345 Connected Normal mode CFG: Ready		88 8	×	3
	© Embention Terms and Conditions		8	ι	
			.		

Fig. 8: PCS unit correctly connected

Note: The image of a Veronte Autopilot 1x is displayed and not a PCS as the device that is actually connected is the Autopilot 1x inside the PCS.

CHAPTER

TROUBLESHOOTING

In case of any software error, it is possible to extract and analyze files from session folder.

Warning: Do not modify or delete manually any Veronte Link file. Copy them to a different path to send or analyze.

Veronte Link files are placed on the following paths:

- C:\Users\USER NAME\AppData\Roaming\VeronteLink\configurables Device configurations.
- C:\Users\USER NAME\AppData\Roaming\VeronteLink\sessions Session files, it includes flights information.
- C:\Users\USER NAME\AppData\Roaming\VeronteLink\tracelogs Event logs, it includes flights information.
- C:\Users\USER NAME\AppData\Roaming\VeronteLink \Rightarrow cfg.son Veronte Link connections configuration file. If deleted, the configuration will be lost.
- C:\Users\USER NAME\AppData\Roaming\VeronteLink ⇒ vlink.lock Internal file that only appears if any instance of Veronte Link is open. If deleted, there will be instability in the system.

4.1 Comm Port error in Windows Device Manager

If the following Windows Comm Port error occurs:



Fig. 1: Windows Device Manager - Comm Port error

Users must extend the diconnection time to 5 seconds to fix it. To do this:

- 1. Go to the **Connetion** menu \rightarrow click on the \mathbf{P} icon to open the COM configuration.
- 2. Open the Advanced parameters drop down menu \rightarrow modify the Disconnect time to 5 seconds.

VeronteLink			^	ٹ 🖈	:	—		×
	SVeronte Link (v6.8.33)		🖋 Laur	nch	@ loc	alhost		
		New connection		+	+	×)	
	🦉 © Embention 🖓 Term	Bata bits			8	C	5.	
-		Advanced			•			
		Cancel Save	-					

Fig. 2: Connection configuration - Disconnect time

If the user is still having problems with this, please contact the support team by creating a ticket in the customer's **Joint Collaboration Framework**; for more information, see Tickets section of the JCF manual.