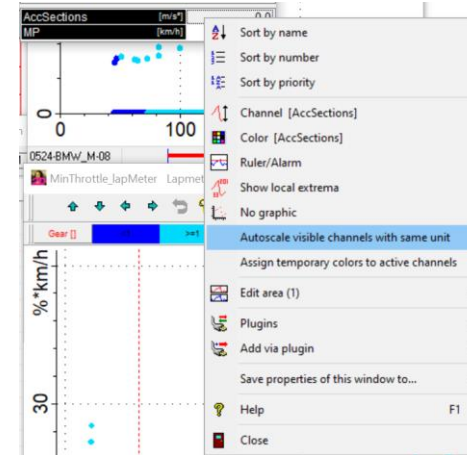


New features and improvements Race 2022

- **Analyzer:**
 - MultiMonitor handling (Win10/11)
 - AutoColor and AutoScale
 - User Management
 - MultiUser
 - User-Backup
 - Phases
 - Exports
- **CalcTool**
 - New commands
 - New predefined CAL-Files
 - Toolchains
- **VideoLink**
- **Winit**
 - Output-channel handling

Analyzer

- **MultiMonitor handling (Win10/11)**
Multimonitor support with different scaling setting per monitor (e.g. FullHD Laptop + 4K External Monitor)
- **AutoColour and AutoScale**
Automatic setting of temporary colors and scaling for currently active channels to perform a quick data pre-analysis.
- **User Management**
 - **MultiUser** ([click here to download manual](#))
Creating different User for various tasks with defined templates and plots
 - **User-Backup** ([click here to download manual](#))
All created Users can be backedup to a selectable directory
- **Phases** ([click here to download manual](#))
Using different phase conditions on different templates



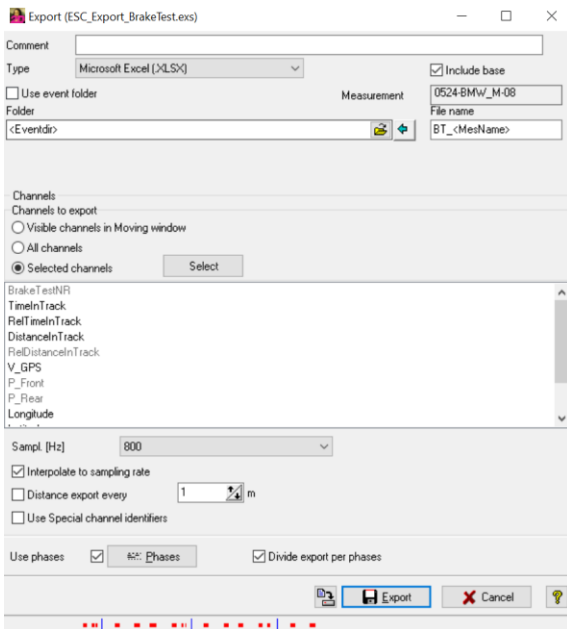
Phases are used to generate a TRUE/FALSE result in the Analyzer with the help of different, self configurable conditions, which can be used for optical marking.

In addition, [ALT + →] and [ALT + ←] can be used to jump back and forth between phases, e.g. to compare channel values quickly and easily. Besides, phases can be also used in many other functions of the Analyzer, such as Export, MinMax tables, X-Y plots, histograms.

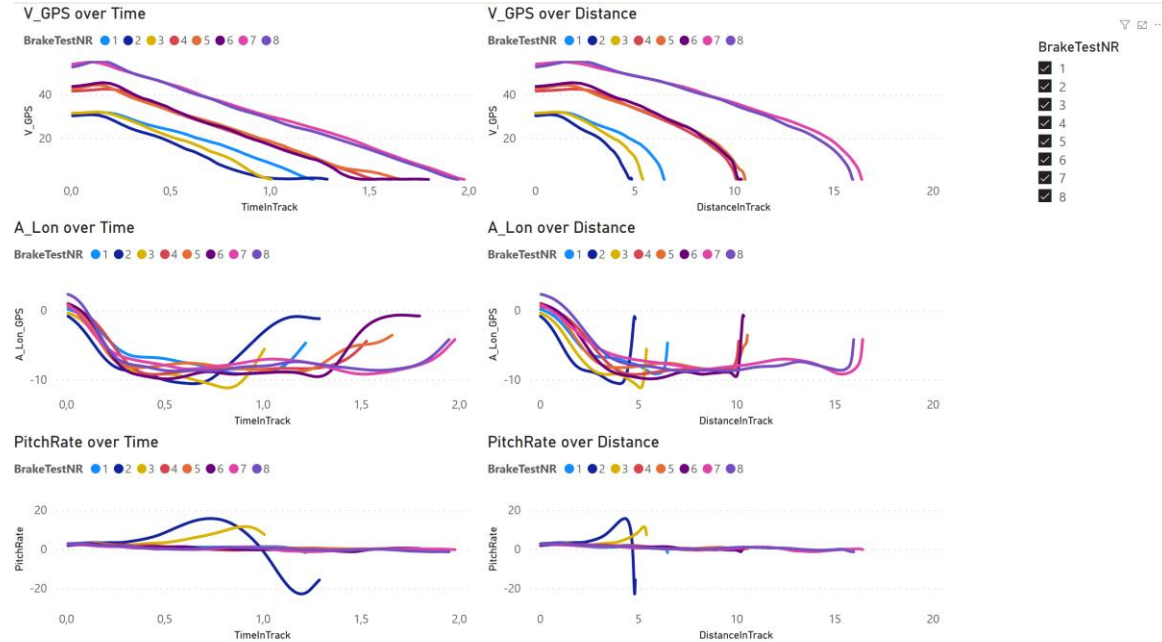
Analyzer

- Exports [\(click here to download manual\)](#)

Creation of exports in which only the data is exported where the set phases are active
PowerBI compatible export



1	Event	Measurement	Lap#	Lap ID	Total laps	Time	Meters	TimelnTrack	LapEnd	DistancelnTrack	LapEnd	SpeedAtBrakepoint	MAX
2	ESC_PaulRicard_BS.21	1112-S1X_17-07	0	1	1	1:50.940 min	146	1,22	6,506	31,4			
3			1	2	2	2:37.120 sec	104	1,29	4,861	31,4			
4			2	3	3	3:39.760 sec	105	1,01	5,436	30,9			
5			3	4	4	4:44.180 sec	109	1,53	10,128	42,4			
6			4	5	5	5:39.060 sec	151	1,66	10,577	42,7			
7			5	6	6	6:34.370 sec	151	1,8	10,382	44,8			
8			6	7	7	7:43.830 sec	196	1,98	16,441	52,7			
9			7	8	8	8:40.200 sec	217	1,95	15,982	54,1			
10			8	9	9	9:35.620 min	268	176,23	59,455	54,1			



WinIt

- **Improved Output-channel handling**

Link between output and input channel is now done by channel name and not by channel number.

So, if you reconfigure CAN-In or CALC channels, the selected output channel will now search for channel name.

CalcTool

- Predefined CAL files (see CalcTool manual)

- **2D_DistanceAndTimeCH.CAL**
Creating time and distance channels with high resolution for evaluation purposes
- **2D_LapChannels.CAL**
Creating Lap-related channels for evaluation purposes

- Toolchains (see CalcTool manual)

- **2D_GPSAuto** ([click here to download manual](#))
Further processing of recorded GPS/GNSS channel
Improved filtering
New channels (Radius & Curvature)
- **2D_GPSTracks** ([click here to download manual](#))
User definable GPS Triggers can be combined to create measurement track channels between or inside trigger point, which are very convenient for further data analysis in the CalcTool as BOOL Channels for further calculations or as phases for Exports, Min/Max Tables, plots, etc
- **2D_FilterAndRotate** ([click here to download manual](#))
Filtering and Coordinate system rotation for an „unlimited“ number of 6 ax sensors.
Each sensor can have individual mounting angle
Data is read and managed through SpecSheet

CalcTool

- Example - new CalcTool commands (click here to download manual)

- Additional commands for easier analysis of WhileTrue-conditions

Example: PosMinWhileTrue & ExpandWhileTrue for automatically analysing throttle value at every apex.

Apex is defined as point with MinSpeed in Acceleration section

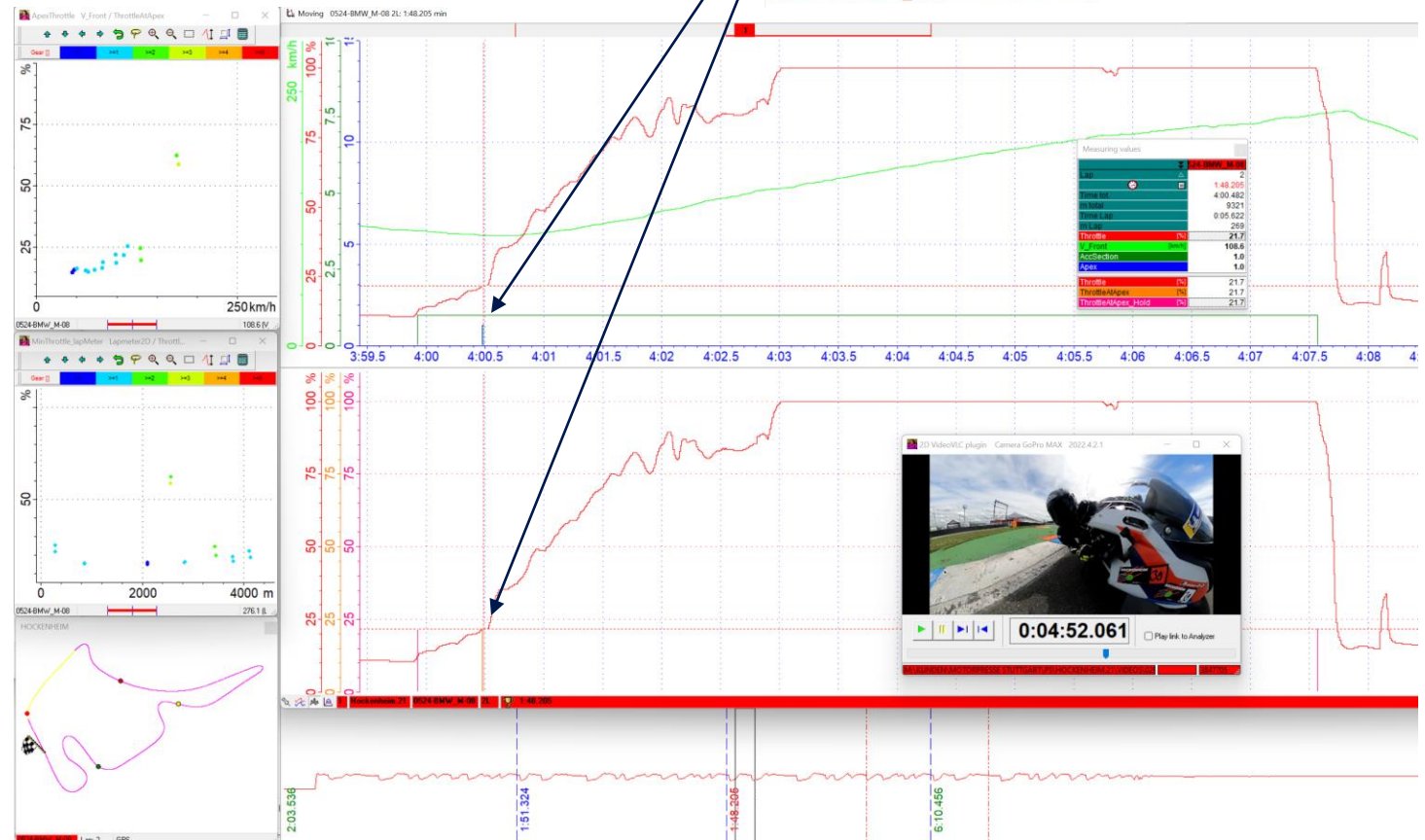
At apex the value of throttle is hold for the whole acceleration section

- Improved multistage path-handover

- New path-placeholders at include calls

```
[CreateSections]
C1 = F(@Int_Speed, F(IIR(0.2Hz)))
C2 = Derivate(#_C1)
AccSection = If(#C2, >, -2, 1, 0)
AccSection = Set(Dim='')

Apex = PosMinWhileTrue(#C1, #AccSection)
ThrottleAtApex = *(#Throttle, #Apex)
ThrottleAtApex = Set(Dim='%')
ThrottleAtApex_Hold = ExpandWhileTrue(#ThrottleAtApex, #AccSection)
ThrottleAtApex_Hold = Set(Dim='%')
```



VideoLink

- Automatic import and synchronization of GoPro Hero 7 Black / 8 Black / 9 Black and GoProMAX 360° Videos with the measurement ([click here to download manual](#))
- With Race2022 it is possible to select multiple measurements and use a toolbar button for easy synchronization of GoPro videos to multiple measurements!

Attach video file(s) to measurement Event: HOCKENHEIM.21 Data: 0524-BMW_M-08

Video number	Video file	Rate play [fps]	Rate MCI [fps]	Length MCI [sec]	Offset [sec]	Fine adjust [sec]	Camera nr.
1	<EventDir>VIDEOS\029012_20210524125146.MP4	59.940	59.940	481.000	-51.581	0.000	1 (GoPro MAX)
2	<EventDir>VIDEOS\490577_20210524125633.MP4	100.000	100.000	5.000	235.685	0.000	2 (Boxenmauer)
3	<EventDir>VIDEOS\02901A_20210524125146.MP4	59.940	59.940	481.000	-51.581	0.000	3 (GoPro MAX 2nd)

- Click [here](#) for Demo video of GoPro AutoSync feature

