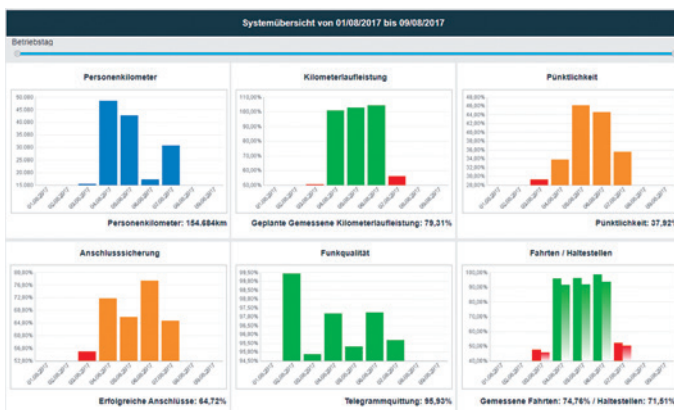


Optimised operation with precisely prepared data

Business Intelligence LIO-BI2

Precise data analysis and report templates for immediate use make ebblo's Business Intelligence module (LIO-BI2) the tool of first choice for transport operators, with best possible evaluation of the AVL system modules for optimised operation.



Reliable operational data is a valuable source of information for any transport operator, as it is the key to improving service quality. LIO-BI2 generates extensive data from the operational control system and makes it available in easily understood standard reports.

Interactive, flexible evaluation is possible with the LIO-Scope add-on. This allows specific tracking of how operational indices are trending, with thorough analysis of operational developments and processes. Transport operators can thus enhance the efficiency of their operations and services.

The potential lies in efficient acquisition of detailed data which can be made available to a large audience through the web technology used. All LIO-BI2 users thus receive extensive, precisely prepared data (after licensing and activation).

LIO-BI2 supports the evaluation of data from different system components, with the user selecting which topics

are to be visualised. Numerous reports enable reliable measurement and analysis of key criteria indicating the quality and performance of day-to-day operations.

Interfaces

Integrated interfaces (export function) make the recorded data available to various other consumers. The evaluations can be exported to Excel, PDF and PNG. The PDF format is suitable for forwarding report results or using them in a presentation. In addition, numerous backend interfaces are available for file exports, with the CSV format making them ideal particularly for other data import systems.

Web-based operation

The web interface stands out with easy operation and user-friendly access to predefined reports. With a corresponding user licence, evaluations can be viewed on any PC with web browser without needing additional installation. Individual users see only those reports that they are authorised to view. For example, technicians have access to device error messages, and operations schedulers can analyse completed trips in order to optimise the timetable.

Scorecard reports

LIO-BI2 provides ready-for-use standardised reports. Depending on the prompts, reports can be generated for example for a certain operator, a certain route or a certain vehicle. Every report contains a header with relevant information and a footer with date and user. LIO-BI2 offers a so-called drill-down function where the various properties of existing information objects are used to refine the analysis step-by-step.

Automatic generation and e-mail transmission

Reports are generated automatically with LIO-BI2. Based on the integrated subscription function, individual reports are created on a daily, weekly or monthly basis or at defined points in time. The user receives the results as a file or automatically by e-mail. This option is ideal particularly for creating and sending regular evaluations.

Data sources

The standard data sources of the AVL system are linked automatically. The control centre data is available for evaluation within a few minutes. As soon as a vehicle is within a Wi-Fi area, the Depot Data Manager transfers data automatically to the BI database. New data versions are loaded once a day to the BI database and are then available for evaluations.

Flexible access control

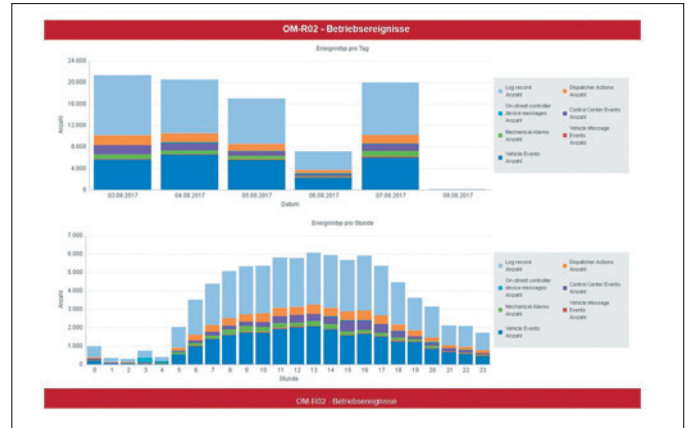
The administrator level allows flexible access control. Reports or topics can be enabled for selected user groups. For example, it is possible to allow only defined users to create reports, or to block certain groups from accessing sensitive data. This multi-client capability facilitates use in multi-agencies and likewise in companies with subcontractors.

Licence packages

The various topics are covered by individual licence packages. Thanks to the modular design, LIO-BI2 can be extended step-by-step and adjusted to individual requirements. The following is a selection of the available licence packages.

Operational log

The operational log is used to produce and show reports of events recorded in the control centre. Extensive filter criteria are available, including selection by workstation, route, run, vehicle or vehicle owner.



Operational log overview

Ereignis Zeitstempel	Arbeitsstation	Ereignis/ID Info	Ereignis	Ereignisart	Line	Kurs	Umfeld	Fahrzeug an Haltestelle	Fahrzeugsystem	Beauftragter	Vorherige Haltestelle	Position	
01.08.2017 06:00:01	1	BE90	Beauftragung (Dienstverf.)	Vehicle Events	4	1	101	113	Wig 113	Anrufsystem (NL,DS)	1	Bahnhof	50
01.08.2017 06:00:05	1	UKDNF	Umfeld 143 (UKN) kein Fahrzeug angeschlossen	Control Center Events							0		
01.08.2017 06:00:06	0	LOG	Fahrzeug-Gesamtdiagnose (Dienstverf. 9: Gesamtadresse 4, Dienstverf. 10: Stellung im Zugverband 0: 1241 8273)	Log Record	521	3	117	124	Wig 124	Anrufsystem (NL,DS)	0	Parplatz	105
01.08.2017 06:00:08	1	ANZ16	ANZEIGE DEFECT 04	Mechanical Alarms	521	3	117	124	Wig 124	Anrufsystem (NL,DS)	0	Parplatz	105
01.08.2017 06:00:09	1	BE90	Beauftragung (Dienstverf.)	Vehicle Events	61	1	102	17	Wig 17	Anrufsystem (NL,DS)	0	Conveyor Weg	45
01.08.2017 06:00:16	0	LOG	Fahrzeug-Gesamtdiagnose (Dienstverf. 8: Gesamtadresse 1, Dienstverf. 11: Stellung im Zugverband 0: 1241 8273)	Log Record	521	3	117	124	Wig 124	Anrufsystem (NL,DS)	0	Parplatz	105
01.08.2017 06:00:16	1	EN110	ENTWERFER DEF 01	Mechanical Alarms	521	3	117	124	Wig 124	Anrufsystem (NL,DS)	0	Parplatz	105
01.08.2017 06:00:19	0	DISPL	Freigabe an FZ 1010000004 - 1000000004 senden Engine No. aktuelles 0	Dispatcher Actions	20	2	104	101	Wig 101	Anrufsystem (NL,DS)	0	Eppendorfer Straße	1055
01.08.2017 06:00:19	1	BE90	Beauftragung (Dienstverf.)	Vehicle Events	9	0	107	03	Wig 03	Anrufsystem (NL,DS)	10	Lippendorfer Straße	32
01.08.2017 06:00:27	1	BE90	Beauftragung (Dienstverf.)	Vehicle Events	9	5	141	117	Wig 117	Anrufsystem (NL,DS)	3	Hausbahnmit	45
01.08.2017 06:00:43	1	BE90	Beauftragung (Dienstverf.)	Vehicle Events	9	2	119	125	Wig 125	Anrufsystem (NL,DS)	16	Hochhofstraße	30

Operational log table

Traffic lights

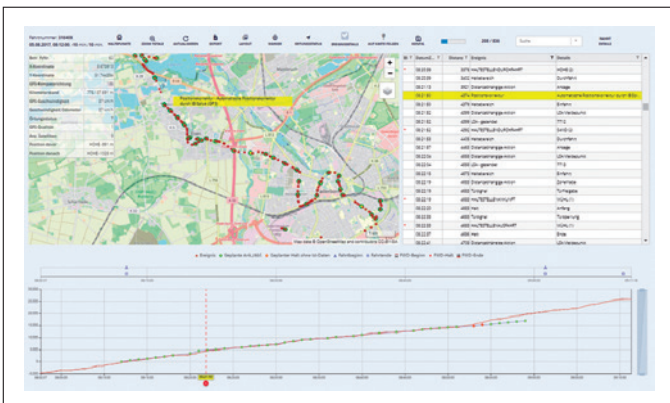
Traffic light evaluation identifies those traffic lights where the vehicles are not able to pass within the defined time period. Traffic light preemption quality is indicated by comparing the planning data with the actual data from the vehicle.

TL-R02 - LSA - Analyse												
Zeitraum Legen	Zeitraum Logoff	Meßpunktname	Meßpunkt Name	Meßpunktname alt/ben	Meßpunktname aktuell	Fahrweg	Linie	Kurs	Umlauf	Zustand	Zugänge	Verbleib
04.08.2017 17:33:08	04.08.2017 18:23:13	10302	K102-2 Sauerhofsallee Günther Straße	4413	4414	62	5	7	0001	71	0	0
07.08.2017 04.44:52	07.08.2017 06:19:22	14104	K101-4 (2) Café	12065	12066	100	4	3	117	57	0	0
07.08.2017 11:53:03	07.08.2017 12:14:54	16202	K102-2 Sauerhofsallee Florianstraße	4409	4410	307	11	9	0101	12	0	0
03.08.2017 23:04:05	03.08.2017 23:22:40	16201	K102 (3) Langener Straße	4049	4050	306	3	03	0106	39	0	0
04.08.2017 20:08:08	04.08.2017 20:25:14	16201	K102 (3) Langener Straße	4049	4050	306	3	15	0106	39	0	0
03.08.2017 22:08:09	03.08.2017 22:23:15	16201	K102 (3) Langener Straße	4049	4050	306	3	03	0106	39	0	0
03.08.2017 23:08:41	03.08.2017 23:27:28	16201	K102 (3) Langener Straße	4053	4054	306	3	03	0106	39	0	0
04.08.2017 23:08:43	04.08.2017 23:21:45	16201	K102 (3) Langener Straße	4053	4054	306	3	15	0106	39	0	0
01.01.2018 17:03:53	01.01.2018 17:16:29	16201	K102 (3) Langener Straße	4049	4050	16	3	12	39	0	0	0

Traffic light evaluation table

Map representations

Synchronised representation with tables, maps and diagrams enables intuitive recognition of hitherto invisible relationships. This eliminates the need for time-consuming compilation of results from various evaluations. Interactive configuration and filtering options let the user adjust the representation in just a few steps, with visual verification of the effect.



Individual trip analysis with map, table and diagram

The highlights at a glance

- Reliable and high-quality data base
- Multi-dimensional data analyses
- Report model for simple and intuitive report creation
- Individual report design
- Numerous export interfaces (Excel, CSV, PDF and PNG)
- Simple operation using web interface
- Standard reports with drill-down function
- Automatic report generation and e-mail transmission
- Scalability based on modern system architecture
- Flexible access control

Technical data

Hardware prerequisites

- CPU: min. 8 (* 64 compatible)
- RAM: min. 32 GB, ≥ 64 GB recommended
- HDD: depending on fleet size, storage period, number of topics etc.

Software installations

- BI basic installation from 2019-Q1
- User licence package (consisting of individual user licences)
- Microsoft SQL database

Subject to change without notice | Status February 2026 | #888957