

BERGHOF



The Terminal Management System for Intermodal Terminals



AUTOMATION

ZUNDEL Holding Enterprise

*realizing
your
ideas.*

Control of Goods Transfer

Transshipment terminals for combined transport interconnect the transport modes of rail, road and waterways.

The predominant role of the comprehensive EDP-system BLU, is to ensure transparency for all operative processes in the terminal. Throughout electronic data capture and information networking with other systems avoids multiple data entry, all process steps are documented and controlled, up to the billing and payment control. Certain services, fulfilled during the terminal processes, can no longer get lost.

BLU is highly efficient and profitable for small transshipment stations as well as for very big terminals and networks. The System ensures clear increases of productivity and operational security, ensuring early amortisation.

Train Processing

Arrival trains: The electronic pre-announced data of the trains, railcars and load units are internally processed and controlled against the actual trains as soon as they arrive and are positioned at the terminal sidings.

Departure trains: The load units booking data sets, made available by clients, rail and combined operators, can be assigned to the railcars of the departure trains, even before the actual train arrival. Specific loading rules and restrictions are obeyed automatically.

Road Truck Transshipment

Road arrival: The data of the load units delivered by trucks for outbound rail transport are either transmitted by the clients, or rail- and combined operators via EDI-interface, or they are initially captured at the truck gate. Immediately after control and processing of the load unit data, the orders for the crane transshipment orders are generated. This selection of most appropriate loading positions is either automated or interactive, supported by the graphical user interfaces of the dispatchers workstations. The truck driver receives a delivery document with the assigned loading road and position as his guidance information inside the terminal.

Road departure: For the collection of a load unit by truck, the LU-position in the terminal area can be selected by different criteria, like LU-identification, arrival train number, storage area in the depot, etc. Subsequently the corresponding crane transshipment order is generated automatically and radio data transmitted to the cranes. The truck driver gets his pickup document with the corresponding loading road position.

Transfer: Also transshipment of LU between two trucks or two railcars, turning or swap of load units on a truck or railcar is controlled by the system. Corresponding crane orders are generated automatically and these types of services data are also provided for the billing system.

Crane Workstation

The crane operators work with their dedicated crane data terminals, which are designed for this rough environment and for work during bright sunshine and night hours. The cranes communicate via TCP/IP over radio data (wireless LAN) or fiber optic transmission with the BLU-server. The crane orders comprise load unit ID-number and characters, size, dangerous goods information, origin and destination of the LU-transshipment and the licence plate number of the truck.

Mobile Data Capture

For support of the works in the open terminal areas, mobile data capture via wireless LAN can be integrated into the BLU-system. This facilitates rapid and secure comparison and eventual correction of pre-announced train data, with railcars, their sequences and corresponding load units with the actual trains in the sidings. In the same way the capture of eventual damages of LU or railcars is possible.

Storage and Additional Services

The actual position of each LU, stored in the terminal, is known at any time. For retrieval of the position of a certain LU, extensive search parameters are provided by BLU. Storage and movements of all load units are controlled by BLU to obey specific rules (like: LU-type, height, dangerous goods, etc.). Additional services, like handling of dangerous goods information, power supply of refrigerated containers, weighing, cleaning, etc. are captured and processed by BLU. In addition, extensive tools are integrated into BLU, for maintenance and administration of all master data.





BLU light

Starting Package for smaller Transshipment Stations

BLU light is the economical starting solution for smaller terminals: With your growth, BLU also grows. You can, at any time, without any loss of investment, upgrade to the **BLU-standard** version. For using **BLU light** you simply need the BLU

software and the required local PC-workstations. **BLU light** offers the full functionality. Investment cost for your own server structure and the wireless LAN can be avoided.

BLU light is run for you on a server, which is not necessarily installed at your location. This server can serve multiple terminal locations.



Extension Modules for even more Efficiency

BLU-Stat: Statistical Analysis

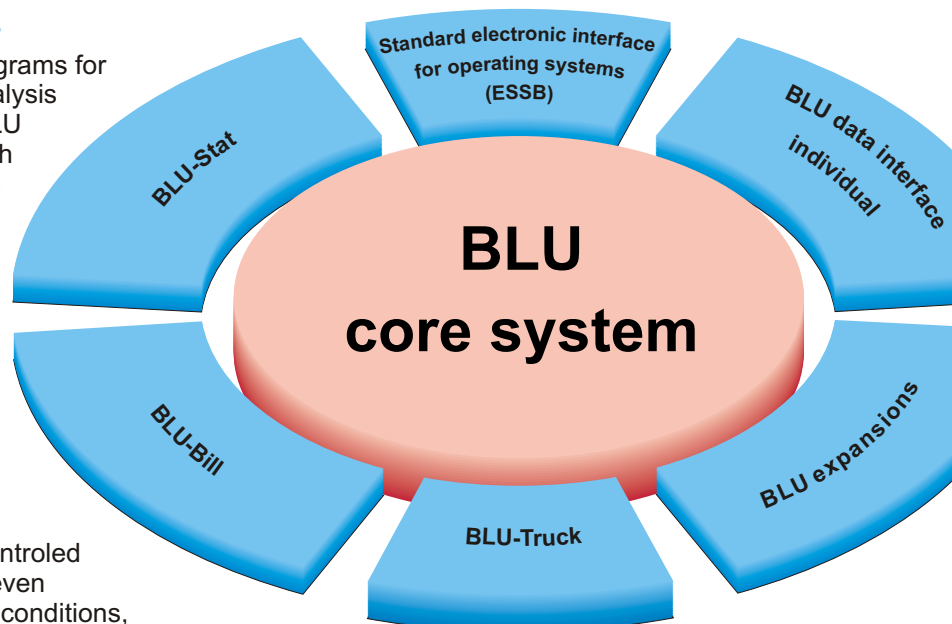
BLU-Stat provides statistical data programs for management information. For this analysis BLU stores in the database for each LU all services and crane movements with their time stamps. From this database daily crane fluctuation diagrams, inbound and outbound rail and road traffic movement, storage, stay and waiting time statistics are produced. For your own analysis an excel-interface is provided.

BLU-Bill: Billing System

Built on BLU-Stat, all services are calculated, invoiced, payments are controlled and reminded. BLU-Bill can process even complex customer specific terms and conditions, different value added tax systems and currencies.

BLU-Opti: Crane Movement Optimisation

For large terminals the throughput capacity can be further enhanced by special crane movement optimisation. The optimisation criteria parameters can be adjusted for adaptation to the actual daily requirements.



Secure, fast, profitable EDP instead of paper notes and shoutings

Standard Hard- and Software

BLU is based on a decentralised EDP-System architecture for transshipment terminals which operate autonomously to a large extend.

As a performance and secure database system, BLU works on international standards, like Windows with MS SQL-server, WLAN etc.

All PCs, printers, crane terminals and handheld MDE-Units are connected via TCP/IP and wireless LAN.

The structure of the software design is strictly modular. As fallback solution it is possible, at any time, to operate all system functions from any dispatching workstation by manual data input.

The BLU-core system of the BLU-standard, as well as the BLU light version, can be upgraded and extended by various options.

Related EDP- Systems

Electronic communication with Railway Operators, which provide their data via standard EDI-message format, avoids multiple data capture. In Germany BLU interoperates with various national and international rail operators, based on an open standard electronic interface. This rail data message format of BLU is designed to ensure efficient and discrimination free access for all Partners to the transshipment terminals.

Technical solutions are available, to adapt the interfaces of existing systems, so that all Partners can use seamless electronic data interchange communication.

Elektronic Data Interface

The Railway Operator's EDP-systems can communicate ether directly with the BLU-local server. They can also be connected via a separate central BLU-communication server. If for instance, more terminals are planned to be integrated into the rail network in the future, this version facilitates their interconnections with various Rail Partners.

BLU-International: Multi-Lingual

For the international market, various language packages are available. For each operator user on the same BLU-system, a different language version can be loaded upon registration to the system.

BLU-Video: Video-Identification and Damage Documentation

For additional video documentation of the incoming and outgoing trucks the licence plate number and the load units are optically recognised and stored. In BLU these images are linked with the load units and they can be retrieved for later evaluation on demand. A separate automated licence plate character recognition system can also be integrated.

BLU-Kai: Inland Port Connection

BLU-Kai supports the loading and unloading process of inland container ships. This enables the integration of tri-modal terminals with access to inland waterways into the BLU-System.

BLU-Truck: Trucking Operation

BLU-Truck supports the terminal operator for the scheduling, dispatching, administration, planning and billing of the truck fleet operations for load unit pick-up and delivery services.

BLU-Web: Customer Information System

Web-access is provided for cargo tracking&tracing requests, where forwarders, combined and road operators get information about the actual status of their load units. This gives more security and transparency for planning and control of the whole intermodal transport chain and avoids waiting times for road pickup operations.

- **Arrival Train Process Management**

- Unloading

- Transfer → Gateway

- Rail sidings Occupation

- Planning (Interactive Graphics)

- **Departure Train Process Management**

- Load Planning

- Railcar Planning

- **Storage Areas Process Management**

- **Additional Service Management**

- Weighing, Transfer, Swap

- **Specific Retrievals and Analysis**



BLU-Graphic

Train No.	Arrival	Departure	...
1000000	12.01.2010 08:00	12.01.2010 09:00	...
1000001	12.01.2010 09:00	12.01.2010 10:00	...
1000002	12.01.2010 10:00	12.01.2010 11:00	...
1000003	12.01.2010 11:00	12.01.2010 12:00	...
1000004	12.01.2010 12:00	12.01.2010 13:00	...
1000005	12.01.2010 13:00	12.01.2010 14:00	...
1000006	12.01.2010 14:00	12.01.2010 15:00	...
1000007	12.01.2010 15:00	12.01.2010 16:00	...
1000008	12.01.2010 16:00	12.01.2010 17:00	...
1000009	12.01.2010 17:00	12.01.2010 18:00	...
1000010	12.01.2010 18:00	12.01.2010 19:00	...

LU-Overview

Transfer

