Development and implementation of information systems for spa and rehabilitation facilities

Introductory word

Spa and rehabilitation facilities are characterised by many specifics. In order to ensure optimum management of all processes, it is advisable to use a specialised information system which comprehensively takes into consideration all of these specifics and thus helps the management to optimise management and utilisation of the means and resources used. Such a system helps specialist staff to provide services to clients with the maximum level of quality and convenience.

The L-BIS information system, which we would like to introduce to you here, ensures comprehensive resolution of all of these specifics of operations at spa and rehabilitation facilities. Leading spa and rehabilitation facilities from major spa towns in the Czech Republic and Slovakia (Karlovy Vary, Jáchymov, Františkovy Lázně, Bojnice, Hrabyně, Slapy and many others) participate actively in development and continuous evolution of this system.

Over the course of twenty years of activity, our company has gained a leading position in the field of these specialised information systems with a share of more than 45% of the Czech and Slovak market.

We would like to offer you the opportunity to start taking advantage of all the benefits and effects offered by the L-BIS information system for provision of services to clients and for management and optimisation of processes.

Who is L-BIS designed for?

The L-BIS information system (hereinafter referred to only as L-BIS) has been designed to create comprehensive software solutions for the following facilities:

- Therapeutic spas
- Spa & wellness facilities
- Spa & wellness hotels
- Rehabilitation facilities, clinics and centres
- Healthcare facilities and nursing homes



- L-BIS is currently used by more than 45% of users in the Czech Republic and Slovakia (a detailed list of users can be found at www.lauryn.cz). These are users with different sized facilities with capacities ranging from 50 to 1,200 beds (the number of computers in the network is between 5 and 200 workstations).
- L-BIS has been the most widely installed information system for spas, wellness and rehabilitation facilities in the Czech Republic and Slovakia since 2000.





L-BIS is made up of 6 subsystems

- Accommodation Agenda client bookings and accommodation, billing for all types of clients (individual clients, travel agencies, health insurance companies and corporate clients etc.) and reception services.
- Healthcare Agenda management of complete healthcare documentation and the related administrative paperwork.
- Rehabilitation Agenda planning and selling therapeutic procedures and wellness services to clients.
- Catering and Storage Agenda storage, restaurant and canteen paperwork as well as dietary standardisation.
- Management Information System a comprehensive tool for on-line monitoring and checking performance, efficiency and observance of defined standards and overall support for management and marketing decisions.
- L-BIS Integration possibility of integrating L-BIS with thirdparty systems and equipment. Integrated software solutions for economic information systems, card systems and entry control systems (e.g. turnstiles), cash registers, telephone exchanges and hotel IPTV systems.

The above-mentioned subsystems are further divided into individual operational modules offering solutions for specific requirements. A description of individual modules can be found below.

L-BIS characteristics

- **Complexity** L-BIS provides a comprehensive suite of software solutions for all processes and agendas within the given facility.
- Modularity L-BIS subsystems are created using individual modules. This modularity allows for adaptation of the L-BIS structure to suit specific requirements for operation of a specific user's operations. Modularity allows for gradual or partial implementation of L-BIS if required.
- **Scalability** all L-BIS modules are fully scalable according to individual user specifics and organisation of their work.

L-BIS characteristics

- Integration all L-BIS modules mutually cooperate and share the necessary data for effective information and document flow within the facility.
- **State-of-the-art technology** L-BIS uses the latest methods, procedures and technologies for development, implementation and administration of information systems.
- **Expertise** more than 25 years of continuous development of L-BIS have allowed us to incorporate the experiences and requirements of more than fifty users. Consultants from LAURYN v.o.s. and its authorised partners have extensive expert knowledge resulting from creation of software solutions in L-BIS.

L-BIS technology

- L-BIS operates in a Windows environment.
- L-BIS has client/server architecture using an MS SQL database server.
- L-BIS fully supports conventional network or terminal operation.

Main benefits of L-BIS

- Functional overall clear arrangement of all activities and processes within L-BIS.
- **Economical** L-BIS is an effective tool for management and control more effective use of resources.
- Marketing L-BIS is an effective tool for support of marketing and business activities.
- **Performance-related** L-BIS ensures a comprehensive overview the performance of the whole facility.

LAURYN v.o.s. & Partners

- LAURYN v.o.s. was established in 1991. We have been actively developing L-BIS since 1992.
- Our team of 15 specialists engages in L-BIS development, implementation and service.
- LAURYN v.o.s. is represented abroad by authorised and comprehensively trained partners providing a full range of services connected with L-BIS implementation and support.









Basic characteristics of AA

The Accommodation Agenda subsystem provides a comprehensive solution for preparation of clients' stays (booking) and subsequent work with the client over the duration of their stay (registration of clients, reception paperwork and complete billing for accommodation etc.).

The Accommodation Agenda subsystem

The following modules are available in the Accommodation Agenda subsystem:

• Accommodation:

- » Comprehensive solution for booking of stays (individual clients, groups of clients and fixed numbers of people).
- » User definition of various types of clients, programmes for stays linked to prices, accommodation etc.
- » Records of clients staying in the facility.
- » Complete billing for stays:
- Individual clients.
- Contractual clients: invoicing clients of travel agencies, health insurance companies and other contractual partners.
- » Comprehensive management of accounting and petty cash records.
- » Comprehensive management of issuing and billing deposits for stays for all types of clients.
- » Option of charging commercial services to a client's bill from the Healthcare Agenda, Rehabilitation Agenda, Catering and Storage Agenda subsystems.

• Reception:

- » Complete reception paperwork.
- » Client check-in and check-out.
- » Checks on payment of individual client bills and actual payments.
- » Integration with card entry systems.

• On-line bookings:

» On-line accommodation bookings over the Internet.

• Retail sales:

- » Complete retail sales paperwork at reception and in mini bars in the rooms.
- » Inventory management in relation to items sold.

• Other:

- » On-line billing of telephone calls made to a client's individual bill.
- » Comprehensive management of exchange office transactions.

Accommodation Agenda

Benefits for the management and owners

- Growth in utilisation of accommodation capacity thanks to clear filling of empty rooms.
- Growth in revenues from services provided: automatic price lists ensure correct generation of prices for all services provided. Checks on payments for all services provided.
- Active support for marketing: repeat stays by clients, loyalty clubs, classification of clients according to credit rating, on-line reservation of stays etc.
- Comprehensive information about the performance and status of the facility: occupancy, financial revenues achieved and planned and many other indicators.

Benefits for users

- Simple and clear utilisation of accommodation capacity.
- Quick bookings: automatic price lists, work with repeat stays, automatic printout of paperwork relating to bookings.
- Clear billing for stays: deposits, stays and additional services.
- Overall simplification and speeding up of the accommodation agenda.

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Screenshot: List of clients



Screenshot: Room diagram

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Screenshot: Capacity diagram







Basic characteristics of HA

The Healthcare Agenda subsystem provides a comprehensive solution for management of healthcare documentation and the related administrative paperwork and is fully integrated with the other subsystems of L-BIS.

The Healthcare Agenda subsystem

The following modules are available in the Healthcare Agenda subsystem:

• Medical documentation :

- » Client records
- » Comprehensive management of medical documentation:
- User-definable templates for records of examinations by doctors and nurses (initial and final), other examinations and other forms.
- Management of daily progress records with the option of printing previous daily progress records.
- Records of diagnoses.
- Evidence diet.
- Records of medication with the option of monitoring dispensing of medication by the nurse according to the doctor's prescription.
- Laboratory examination prescribed laboratory examination, issuance of requisitions for laboratory examination, records of their results, option of monitoring the results of examinations in several units.
- Procedures prescribed procedures in relation to the Rehabilitation Agenda module (timing of procedures). Comprehensive checks on observance of determined limits (price, quantity, average, etc.) when bundles of procedures (with a flat rate) are prescribed. Prescription of procedures paid for above the framework of client packages (commercial procedures and bonus procedures etc.).
- Records of external medical documentation.
- » Printing of medical reports in any language (in the Roman or Cyrillic alphabet or Arabic).
- » Automatic records of all medical procedures performed with the option of printing an individual client bill.
- » Other related paperwork (prescriptions, sick notes or ambulance requests etc.).

• Billing for medical work:

- » Out-patient procedures, in-patient procedures.
- » Invoicing and benefits for health insurance companies.
- » Reports for the Institute of Health and Information and Statistics of the Czech Republic.

• Other features:

- » Communication with external laboratories (export or requisitions and import of results).
- » Connection with PACS systems.



Healthcare Agenda

Benefits for the management and owners

- Check on observance of contractually agreed limits for provision of individual medical procedures.
- Motivation of employees to prescribe commercial procedures.
- Increase in the quality of healthcare services provided and the overall image of the facility.

Benefits for users

- Clear and quickly available records of clients and their medical information.
- Several functions for resolution of the specific requirements of spa and rehabilitation facilities and automation of processes: Prescription of procedures, monitoring contractually agreed procedures, etc.
- Overall simplification and speeding up of the healthcare agenda.



Screenshot: Initial examination



Screenshot: Procedure prescription

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Screenshot: Prescribed procedures



Basic characteristics of RA

The Rehabilitation Agenda subsystem provides a comprehensive solution for planning and sale of procedures to clients and is fully integrated with the Healthcare Agenda subsystem.

The Rehabilitation Agenda subsystem

The following modules are available in the Rehabilitation Agenda subsystem:

- Treatment plan:
 - » Records of clients in procedures.
 - » Planning procedures for clients:
 - Planning procedures prescribed to clients in the Healthcare Agenda subsystem.
 - Planning procedures prescribed from packages for relaxation stays.
 - Planning procedures prescribed is possible automatically, semiautomatically or manually when new procedures are planned or changes made to procedures.
 - While planning procedures, the following limiting conditions are monitored: numbers of procedures, primary and secondary procedures, forbidden combinations of procedures, transfer times between procedure locations, client mobility, sharing procedures, continuity of procedures.
 - Procedure planning generates a time schedule of individual procedures for the client. The treatment plan can be printed out in any language (in the Roman or Cyrillic alphabet or Arabic).
 - A list of planned clients on any given date is displayed or printed out for the staff performing individual procedures and working in individual departments.
 - » Management of rehabilitation operations:
 - Comprehensive administration and management of planning procedures, departments and means.
 - Administration of rehabilitation staff and their utilisation of their working hours.
 - Comprehensive evaluation of procedure capacity utilisation, means and staff.
 - » Monitoring of attendance at procedures:
 - -Various client statuses can be monitored for procedures (not registered, no show, arrived, substituted, not substituted).

• Wellis:

- » Sale of commercial procedures to clients.
- » Sale of commercial procedures in the form of prepayments and gift vouchers.

Rehabilitation Agenda

- » Monitoring use of prepayments and gift vouchers, status of use at the end of the validity period.
- » Management of entry to the pools and balneotherapy departments using ID cards and turnstiles.

Benefits for the management and owners

- Precise information about use of individual procedures and departments and rehabilitation staff. An effective tool for monitoring of rehabilitation operations.
- Increase in substitutability of staff.
- Increase in the quality of rehabilitation services provided and the overall image of the facility.

Benefits for users

- Quick planning of procedures for clients whilst automatically checking observance of all limiting conditions (forbidden combinations of procedures, transfer times and gender etc.).
- Simple administration and management of rehabilitation operations.
- Overall simplification and speeding up of the rehabilitation agenda.



Screenshot: Planning procedure



Screenshot: Rehabilitation Agenda list and card



Screenshot: Staff schedules







Basic characteristics of CSA

The Catering and Storage subsystem provides a comprehensive solution for management of storage, restaurants, kitchens, canteens and dietary standardisation and is fully integrated with the Accommodation Agenda and Healthcare Agenda subsystems.

The Catering and Storage Agenda subsystem

The following modules are available in the Catering and Storage Agenda subsystem:

- Storage:
 - » Comprehensive storage management.
 - Received items and transfer to user-defined storage rooms.
 - Items taken out of storage in relation to the Dietary Nurse, Restaurant and Retail Sales modules.
 - Comprehensive stock taking and balancing of stock.
 - » Option of managing food storage, pharmaceutical and material storage.

• Dietary Nurse:

- » Definition of recipes (standards) for preparation of individual meals.
- » Option of defining cost limits for types of meals and types of diners and monitoring how these are observed over the specified period while drawing up menus.
- » Creation of menus and menu boards for individual days and periods, for various types of diners according to Accommodation Agenda. Printing of menus in any language (in the Roman or Cyrillic alphabet).
- » Option of defining the layout of tables in individual canteens. It is then possible to seat individual clients at these tables, to monitor free capacity at tables and to display information about the client (e.g. diet, special dietary requirements specified by a doctor etc.).
- » Option of ordering meals and subsequently checking number of meals taken using ID cards or chip technology.

• Restaurant:

- » Comprehensive administration of restaurant paperwork, integrated with the Storage module.
- » Option of various types of payments for services provided (cash, card, inclusion in the client's hotel bill or invoicing).
- » Comprehensive monitoring of financial and quantity balancing (revenues and stock taking).

• Retail sales:

» Sales of goods in reception and mini bars in rooms, integrated with the Storage and Accommodation Agenda modules.

Catering and Storage Agenda

Benefits for the management and owners

- Savings on costs for operation of catering thanks to continuous monitoring and evaluation of catering limits for individual types of meals and diners (clients).
- Optimisation of stock reduces the need for needless tying up of funds in stock.
- Increase in client satisfaction with provision of catering services.
- Check on revenues from restaurant services provided: automatic price lists ensure correct generation of prices for all services provided. Checks on payments for all services provided.

Benefits for users

- Simple and clear planning of catering and kitchen operations in relation to the specified recipes, types and numbers of diners.
- Comprehensive and clear management of the storage agenda including reporting.
- Comprehensive and clear management of the restaurant agenda including reporting.
- Overall simplification and speeding up of the catering and storage agenda.



Screenshot: Dietary standardisation



Screenshot: Table layout plar



Screenshot: Restaurant cash register





Management Information System

MS Excel. Outputs are generated in MS Excel in the form of wellarranged contingency tables and graphs.

» It is possible to use pre-defined tables and graphs in MS Excel using the CoLBIS data store, or to create user-defined views.

Benefits for the management and owners

- On-line overview of the current status of the whole facility and its results in terms of all agendas.
- Prediction of anticipated results for the next period (occupancy, financial performance and more) allows you to make the necessary management and marketing decisions to achieve the optimum results.
- Overall simplification, speeding up and consolidation of company reporting from individual agendas.

Benefits for users

- Simple and clear on-line generation of the required statistical indicators from individual agendas.
- Generation of outputs in the form of contingency tables and intelligent graphs in MS Excel means that they can be modified by users without the need for reprogramming.



Screenshot: Management Information System



Screenshot: Contingency table



Basic characteristics of the MIS

IS L-BIS

The Management Information System is a tool to support management and marketing decisions. The subsystem allows for comprehensive monitoring and evaluation of performance indicators in terms of individual agendas in on-line integration with the Accommodation Agenda, Healthcare Agenda, Rehabilitation Agenda and Catering and Storage Agenda subsystems.

It is possible in the Management Information System to monitor more than 40 performance indicators which can be subdivided and filtered according to more than 50 attributes. The main groups of indicators are as follows:

- Occupancy indicators comprehensive evaluation of utilisation of accommodation capacity, capacity of healthcare operations and capacity of rehabilitation operations.
- **Financial performance indicators** comprehensive evaluation of financial operations implemented and anticipated.
- **Days indicators** comprehensive evaluation days of treatment, accommodation and catering implemented and anticipated.
- **F&B indicators** comprehensive evaluation of the economic performance of catering and storage operations and observance of specified limits.

The MIS subsystem

The following modules are available in the Management Information System subsystem:

• Reporting:

- » This module allows for use of defined operational reports from individual subsystems for defined users.
- Operative MIS:
 - » This module provides access to specific views of individual subsystems: capacity diagram, accommodation diagram, document ledgers, graphical plan of occupancy of rehabilitation departments and others.
- CoLBIS:
 - » This module resolves complete controlling in terms of all of the subsystems of L-BIS and the agendas which they deal with.
 - » A data store is automatically generated from the operational data of individual subsystems of L-BIS for the requirements of the CoL-BIS module.
 - » The CoLBIS module allows for integration of the data store with





Implementation and service

IS L-BIS

L-BIS Integration

The L-BIS information system can be integrated with the following systems:

- Hotel information systems you can use special L-BIS modules for management of a hotel agenda. Integration of L-BIS with a hotel system which is already being used is also possible.
- Economic information systems transfer of accounting documents and information between L-BIS and the economic information system.
- **Card and entry systems** integration of L-BIS with card systems for controlling entry to balneology operations, communication with turnstiles and more.
- Hotel IPTV integration of a system for hotel IPTV with the client's card, client's bill, treatment plan and other information from L-BIS.

Implementation of L-BIS

Methodology certified in compliance with the ISO 9001 standard is used during implementation of L-BIS. Implementation is performed in the following phases:

- Analysis of current status complete analysis of the current status for implementation of L-BIS.
- Implementation project definition of all processes and methods of their resolution within L-BIS.
- Parametrisation of the system complete setup and parametrisation of L-BIS according to the individual user's specific requirements.
- User training complete user training in use of L-BIS. Training ends with a practical test on the basis of which a certificate is issued for work with L-BIS.
- Preparation for roll-out of live operation general preparation of L-BIS for roll-out of live operation: entry of client parameters, checks on hardware readiness and other related activities.
- Supervision during roll-out of live operation assistance in person by our consultants provided to the user's staff during the first few days of live operation and work with L-BIS. Subsequent remote monitoring and visits in person to the user's facility.
- Evaluation of implementation evaluation of the results of implementation (comparison with the initial defined status) and determination of further possibilities for development of the infor-

mation system. Implementation of L-BIS ends when all contractually guaranteed activities have been performed and all of the modules of L-BIS work in live operation.

Service and support for L-BIS

After implementation of L-BIS has ended, we provide complete service and support to the customer. Service and support for L-BIS includes the following services:

- **Hotline** resolution of user queries in the form of telephone consultation.
- **Remote administration** resolution of queries and problems in the form of remote access, directly in the user's system.
- Consultation and training consultation and training for L-BIS.
- Legislation upgrade guarantee of L-BIS upgrades to comply with any changes in the legislation.
- Functional upgrade L-BIS upgrades in relation to user requirements.
- **Remote monitoring of the system** preventative monitoring of L-BIS in the form of remote access.

More information about L-BIS

Further information and materials to download can be found at **www.lauryn.cz**. We offer a no-obligation presentation of L-BIS for anyone who is interested.





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