Analysis of CAFM software for construction companies in the Czech

Lukas Rudl

Introduction

Based on qualitative research of existing CAFM software solutions and their functions on the market, a questionnaire is created with predefined questions focused mainly on functions and user interfaces concerning especially property records, use of office space, energy management and price. Based on the answers from the respondents, the most suitable solution for possible use in a construction company is selected. The article defines the most used terminology related to facility management software.

Materials and methods

The method of this article is qualitative research focused on existing CAFM software solutions and their functions, which could be used for construction companies. Based on online research, companies that deal with facility management and are providers of CAFM software solutions have been identified. A questionnaire with predefined questions was compiled for the research and was sent to representatives of selected companies. All questions were mainly focused on functions and user interface. General information about individual participants in the research was obtained from the official websites of the providers or based on personal phone calls or e-mail communication.

Of the seven interviewed companies offering CAFM software in the Czech Republic, representatives of the following software solutions participated in the questionnaire survey:

- ARCHIBUS [1];
- AMI platform [2];
- INSIO Software s.r.o. [3].

First, a general description of the company is given for individual providers and then a description of selected functions of CAFM software for possible use in a construction company is given.

Software for facility management

At present, facility management contains so many activities and information that it is difficult to imagine performing the function of facility manager without software support. The introduction of advanced software thus facilitates the acquisition and processing of large amounts of data, which facilitates and speeds up the decision-making capabilities of the facility manager. Within facility management, CAFM software is used, which ensures the management of support activities and is often supplemented by CMMS software, which provides more detailed monitoring and maintenance planning. First, it is necessary to define selected systems and their abbreviations, which are used in facility management [4].

Software selection

Considerable attention should be paid to the selection of a particular software vendor, as this is a relatively expensive solution for a relatively long time and changing the system would prolong the deployment process in time and money [5]. It is therefore necessary to begin by analyzing the information gathered on the current situation, writing expectations, and setting clear objectives with priorities. Thus, in selecting the appropriate software, priorities should be set in the following areas:

- Web interface availability (cloud)
- Price
- How data is implemented for building management - CAD, BIM
- Area management function
- Asset management function
- Device management and service information functions
- Outsourced service management features
- Helpdesk function
- Cost overview function
- Energy management

There is no uniform methodology for the implementation itself due to the different requirements of individual companies and the differences in the buildings that are managed. In view of the constantly evolving trends and changing needs within companies, it is necessary to select a system with an available development background that can provide possible adjustments [6].

Research results

Based on the answers of the respondents to the defined questions, the functionality of individual software solutions for their practical use was determined. Part of the research was found to be the cost of individual solutions that play a role in selecting a suitable software solution for a construction company

1. ARCHIBUS

1.1. Basic information

It is software developed in the USA and in the Czech Republic it is offered by IKA DATA, spol. s.r.o. providing professional services in the field of information technology, certification, and IT. For facility management offered by ARCHIBUS, the software used worldwide is compatible with Autodesk products.

1.2. Property records

The software offers a complete record of assets, which is included in the basic ARCHIBUS package. Within the records, it is possible to record the inventory number, location, date of acquisition, acquisition price, current value, planned revisions, historical overview of costs of revisions and repairs and the person responsible for the property.

1.3. Use of office space

The dwg., rvt and .IFC formats can be used within the ARCHIBUS software for the graphical display of spaces. In the case of importing and graphically displaying spaces in ARCHIBUS, individual areas can be divided into separate departments, separated by colors, assign employees to offices, and monitor the costs of individual departments.

1.4. Energy management

As part of energy management, ARCHIBUS offers the option of monitoring consumption at the point of consumption, which aims, in addition to monitoring, also to evaluate costs in real time. The research found that in the case of a global company and local suppliers, it is necessary to choose an individual approach in the monitoring settings.

2. AMI

2.1. Basic information

The AMI platform is developed by UNICORN, which was founded on the Czech market in 1990 and is currently one of the most important European companies dealing with information systems. In the case of AMI software, it is a modular solution based on a graphical passport of buildings and premises.

2.2. Property records

In the case of AMI software, it is a modular solution based on a graphical passport of buildings and premises. For each asset, it is possible to record the inventory number, location, date of acquisition, acquisition price, current value, planned revisions, historical overview of the costs of revisions and repairs and the person responsible for the property.

2.3. Use of office space

Only .dwg format can be used for data import and graphical display of spaces. It is possible to assign employees to individual offices to such imported spaces, graphically separate areas and monitor costs for individual departments. This type of monitoring can be used, for example, in rental areas and can be connected to other external systems.

2.4. Energy management

The AMI - energy module is used to manage energy and readings, which monitors all operating energy expenditures. At the same time, this module provides a basis for energy audits and equipment inspections. The only limitation in the case of this module may be the integration with systems that have automatic readings.

3. INSIO software

3.1 Basic information

Platform The company INSIO was founded in 2005 and specializes mainly in the optimization of business processes, helpdesk solutions and systems for operation, maintenance of equipment, resources and orders. On the Czech market, the company offers INSIO software with a management and operation module.

3.2. Property records

The basic package of the CAFM solution also includes asset records, for which the inventory number, location, acquisition date, acquisition price, current value, planned revisions, historical overview of revision and repair costs and the person responsible for the property can be monitored and recorded.

3.3. Use of office space

As the only import format, the INSIO representative mentioned the .dwg format, which can be used to create a graphical representation of areas and assign employees to individual areas. However, the software no longer allows you to divide imported drawings into areas separated by colors, eg by department, and to monitor costs for individual departments.

3.4. Energy management

From the point of view of energy management, the software has no restrictions on the automatic collection of data from consumption points and data updating. Sampling points can also be graphically displayed on imported drawings for clarity of resource usage.

Conclusion

In case of choosing suitable software, it is necessary to perform an analysis of the offered software solutions on the market. Before selecting the appropriate software, it is necessary to analyse the current state of the company and set the expected goals. In case of choosing a specific software solution, I recommend having a personal meeting with a representative of the company that offers the software. At the introductory meeting, it is necessary from the customer's point of view to define the expectations from the implementation, the structure of the company's operation, the existing software and equipment which should be connected to the CAFM software. The seller should make a presentation of the offered solution, when it is necessary to focus on the modularity of the solution, the graphics of the working environment and whether all solutions are available for our goals. Based on the introductory meeting, a price offer should be submitted by the seller. Based on a comparison of price offers and, ideally, the references obtained, a software supplier is selected.

From the performed research, ARCHIBUS and AMI can be recommended for CAFM solutions, which contain all the required properties that were interviewed. ARCHIBUS has an advantage over AMI especially in the possibility of importing data using the .ifc format, which is not supported by AMI.

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