

SOLUTIONS FOR REDUCTION OF TIME AND EXPENSES OF BUSINESS MANAGEMENT VIA 1C: PAYROLL & HR MANAGEMENT SOFTWARE

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ABSTRACT

The organization of management accounting is an important factor for the creation and support of the main business processes of a company, as it is human resources that serve as the “engine” of processes. There is a large selection of information systems that allow you to keep personnel records and payroll in one product. However, depending on the specifics of a company and system requirements, not every developed application solution will be useful to maintain management accounting for a particular company. Today, in the Russian market, the software "1C: Payroll and Personnel Management" takes a leading position in the framework of automation systems. Delivery options (Basic version, PROF and CORP) are tailored to the specific needs of a company. The implementation of this software has its own sequence of actions, which will allow avoiding possible difficulties during the transition from one system to another. The studied interaction network of the main participants (project manager, consultant, programmer, responsible for the part of the customer, end-users) will help to avoid disagreement at the initial stages of automation. Based on specialized literature and practical experience, classification of typical errors was analyzed and given, and possible solutions were proposed that would reduce time and economic resources.

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1. INTRODUCTION

There is a large selection of software tools designed to automate personnel records and payroll. According to the results of the all-Russian survey of enterprise managers conducted by the NAFI Analytical Center in 2016, optimization of managerial functions makes 45%. A serious niche in the

Russian market is occupied by "1C: Payroll and personnel management". The main advantage of the program is the operational change of functionality in accordance with the Russian Federation legislation. The applied solution is applicable not only to small and medium-sized enterprises but also has gained its distribution among the companies with large cash flows. In recent years, projects to implement automated personnel management systems have been a prominent feature of the IT effort of many civil services in Africa. The projects absorb a relatively large proportion of the discretionary expenditure of the civil service in the purchase of equipment, and they rely heavily on expatriate consultants for project management and technical implementation. Typically, they take a minimum of three to five years to implement from start to finish, which represents a substantial opportunity cost. These automation projects have a relatively high failure rate vis-à-vis their stated objectives. Improved human resource management is central to current development policy thinking. In 1989 a World Bank report identified weak public administration as one of a number of factors inhibiting sustainable economic growth in Sub-Saharan Africa. The report called for better personnel management in terms of staff testing, competitive entrance examinations, regular appraisals, promotion on merit, selective improvement in the pay structure and accurate personnel records. Moreover, the debt crisis of the 1980s forced governments to attempt radical economic reform, often as Economic Structural Adjustment Programmes (ESAPs) designed with advice and finance from the Bretton Woods institutions. ESAPs in Sub-Saharan Africa typically include a significant reduction in the size of the public service, thus making more urgent the need for improved human resource management. The need for accurately recorded personnel information is important for effective and efficient service delivery and in protecting the rights of the citizens. Personnel records serve a host of purpose and to be of value, these records must be accurate, up to date and easily accessible. Most information and personnel records management programs intend to furnish accurate, timely, and complete information for efficient decision making in the management of the organisation. Personnel records are facts to support decisions made and facts upon which the future decisions are carried out; facts to communicate to employee, to customers, to potential customers, to government, and stockholders. The facts, if managed properly, improve employee morale (Gill, 1993). IRMT, (1999), argues that good personnel records are necessary to allow the best use of available staff and promote efficiency in the organisation. The records also help the organisation make good use of scarce resources and help provide an accurate source of data, which can be used in other information systems throughout the organisation. According to World Bank, (2000); Cain, (1998), personnel files should have information necessary for decisions about suitability for promotion, transfer, disciplinary procedures, educational training, health, safety, and welfare and also information that explains and authorise changes to payroll pertaining individual, including supporting documentation. Most importantly, the records provide the authority for determining pension entitlement for the employees. However, in order to save the objectives of the employers and the employees, personnel records must be trustworthy in terms of their accuracy, completeness, and verifiability. Unfortunately "...in some countries, records systems have broken down to such an extent that accurate information on these topics is no longer available" (IRMT1999:6). Although filing is the heart of personnel records retrieval, few office managers place any importance on the work. Most government institutions have their records and information management in chaotic situations. There are problems of misfiling and with flying papers that leave gaps in personnel files. It also takes too long for records working staff to

retrieve files, which leads to frustrations in carrying out their work and hence, administrators are forced to make decisions on an ad hoc basis. Citizens suffer from inadequate services with long delays, and their rights are not protected (World Bank, 2000).

2. METHOD

A detailed analysis of specialized literature with a high citation index on a given topic has been carried out. Particular attention was paid to the study of the program's typical functionality, the assessment of the software product capabilities received from end-users was analyzed. The collected data array was accumulated in various units in order to conduct further analysis of the system. For a better understanding and mastering of fundamental principles, a business process was developed to introduce a software product into the company information system. Based on the results of the study, the author's interpretation was given and the options for typical problem-solution were proposed.

3. 1C: PAYROLL & HR MANAGEMENT: BUSINESS MANAGEMENT SOFTWARE

Typical functionality, delivery options for software are differentiated depending on the needs of companies. Currently, three types are implemented:

1) "1C: Payroll and personnel management 8. The basic version" is the most suitable option for small organizations that want to automate the following tasks:

- Personnel and personified accounting;
- Calculation of charges and deductions;
- Payment of wages;
- Calculation of taxes and insurance premiums;
- Development and delivery of regulated reporting;

2) "1C: Payroll and Personnel Management 8 PROF" - in addition to the capabilities of the basic version, they implement the support for the client-server version of the work and simultaneous accounting of several organizations.

3) "1C: Payroll and Personnel Management 8 PROF CORP" - the software designed for large organizations. In addition to maintaining personnel records and accrual calculation, effective management of labor resources is provided (grades, employee training, labor protection, etc.).

In the course of the analysis, we found that large companies (Yuzhuralneftegaz, UralChem, Trading, and Financial Company KAMAZ, TMTP, and the Business Service Center) introduced the version of CORP to optimize managerial functions.

The main participants of the implementation. All participants of the implementation process can be conditionally divided into two groups: • program users, and • project group.

3.1 DEPARTMENTAL LINK WITH THE 1C SOFTWARE

Due to the fact that the program is aimed at personnel records and payroll optimization, the main users of the program are the units considered in Figure 1.

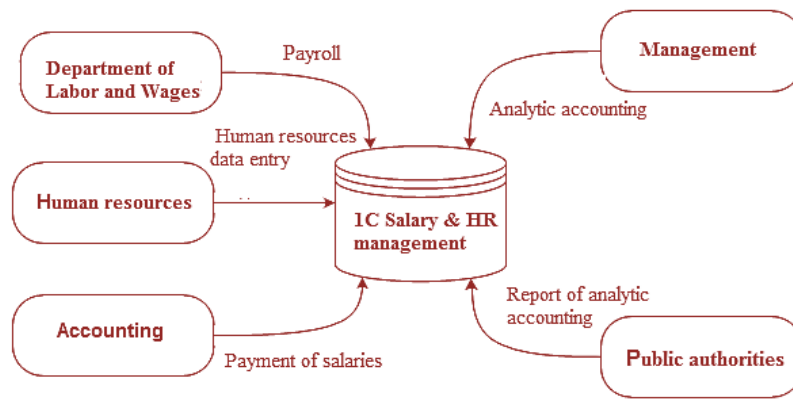


Figure 1: Main users of the software 1C: SAM.

A project group can be both internal (i.e. consists of company employees) and external (involvement of outside organizations). “1C: Payroll and Personnel Management” is a comprehensive product that covers various areas of use. In this regard, not every company has certified experts who have experience in implementation. That is why a project team most often consists of part-time experts.

The main experts of the project group include:

- Project Team Leader
- Consultant 1C: SAM
- Programmer (Artemiev et al., 2013).

The number of consultants and programmers varies depending on project size (Anshin, 2013).

However, it is important to understand that the effectiveness of the program implementation depends on the interaction of all implementation participants. Figure 2 shows a typical network of interactions between participants.

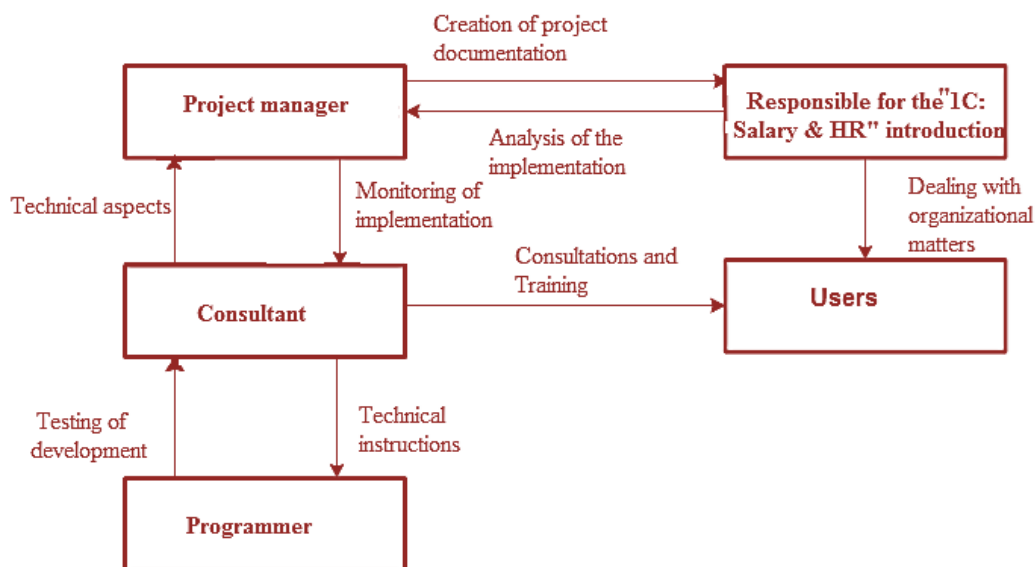


Figure 2: A network of implementation participant interactions.

3.2 IMPLEMENTATION STAGES

The introduction of the multifunctional product “1C: Payroll and Personnel Management” differs

from the introduction of a regular business application. The process is a complex, multi-stage workflow that requires attention not only from the contractor but also from the customer (Vishnyakova, 2012). Figure 3 shows the implementation process, built on the basis of practical experience and studied methodologies.

The project initialization begins with the signing of the order on the implementation of the software products by the governing parties. This is the starting point of the project. After that, an activity survey is carried out, which includes the survey of the main participants in the process and the description of the system requirements.

The most difficult stage is the base preparation. The programmer downloads data from the old information system and configures the integration. The consultant prepares the program according to the project terms of reference. Preparation of the program includes an initial verification of the data correctness, user creation, initial configuration of rights, charges, work schedules, etc.

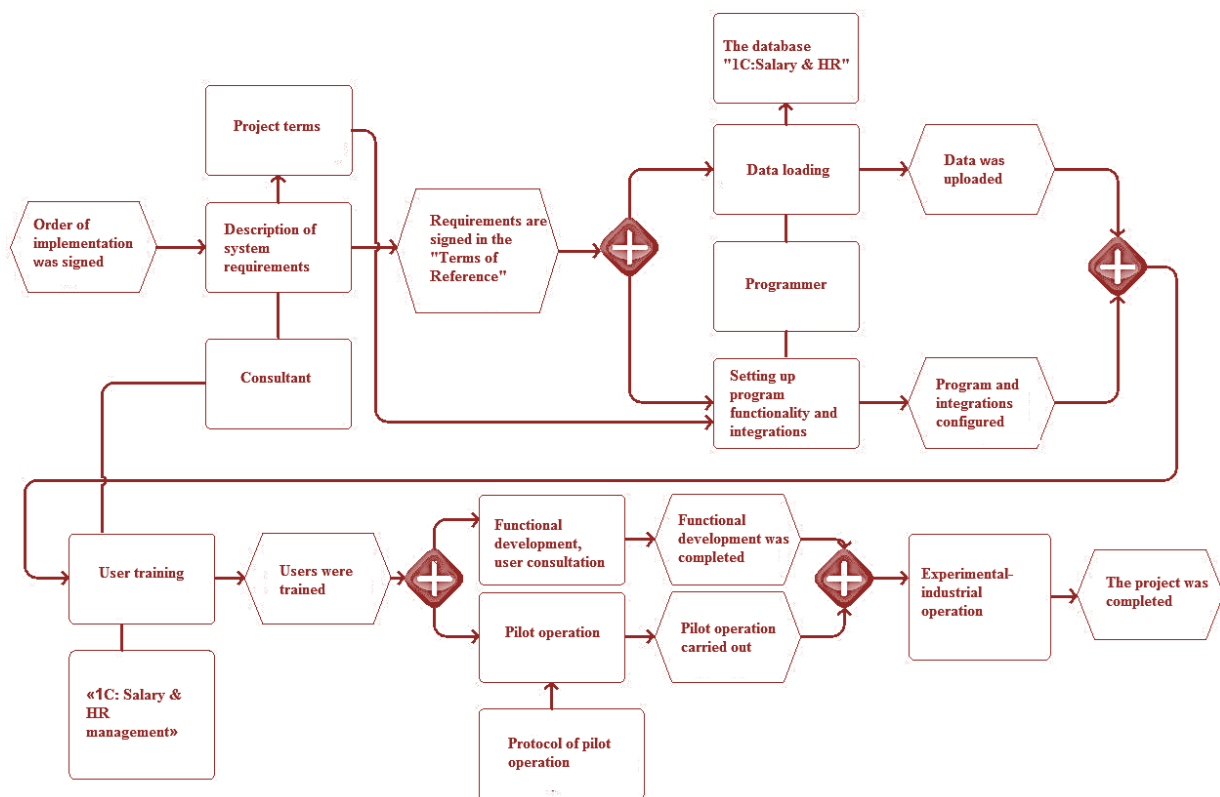


Figure 3: The typical implementation process of “1C: Payroll and Personnel Management”

When the base is prepared for work, the consultant conducts user training. The result is a signed knowledge sheet. Pilot operation means checking the correctness of the software and calculation of charges. Users duplicate data from the previous period, gain practical skills and verify operation correctness.

The final stage of implementation is the pilot operation. Personnel managers enter real data on employees, the department of labor and wages calculates cash rewards in the new program only. Difficulties can arise due to insufficient skills of working with the program. Therefore, at this stage, there is an active interaction of users, consultants, and programmers. Usually, accompaniment is carried out for at least 3 months, since you need to submit regulatory quarterly report to verify the data (6-NDFL, 4-FSS, RSV) (Gryanina & Kharitonov, 2013).

3.3 IMPLEMENTATION ISSUES

Any transition from one information system to another will be accompanied by difficulties. All this is conditioned both by the human factor (fear of transition, program ignorance, etc.), and technical problems. We have identified the following classification of problems:

- Difficulties on the part of contractor,
- Difficulties on the part of initiator,
- Technical problems of a typical configuration of 1C: SAM.

3.3.1 DIFFICULTIES ON THE PART OF CONTRACTOR

The problems of the contractor include:

1) Low qualification of the project group's main participants.

The source of the problem is staff shortages or project budget savings. The low qualification factor leads to time increase to complete the tasks of varying complexity. Due to the fact that the project has specific deadlines and a documented scope of tasks, non-observance of control points can lead to economic losses.

2) Securing the performance of a complex task for one expert.

In practice, it is often found that the implementation of an important and long-term task is delegated to one employee only. But not all leaders take into account the human factor. An employee may fall ill or quit at the most inopportune moment, and the task performance deadlines may be delayed.

3) Lack of information resources.

Even a highly qualified SAM expert needs to be constantly trained. New releases of the program provide not only new opportunities for work but also entail the emergence of new, unknown errors. Consultants and programmers should have access to specialized information sources (Internet resources, teaching aids). Access to such resources is paid. In this regard, not every company provides such expenses.

4) Wrong server use

Depending on the number of program users and the expected amount of data, various types of servers are distinguished. It is the server that provides a reliable and comfortable operation with various 1C configurations. Therefore, even at the stage of an organization survey, attention must be paid to the estimated amount of data.

5) The auto-save function is disabled.

This problem is relevant to the initial data entry stage. Due to the fact that the database is not completely ready, users have insufficient knowledge of working with the program, a backup will save data and, if necessary, restore the database. At the stage of pilot operation, they need to customize the data copy option per minute.

3.3.2 THE DIFFICULTIES ON THE PART OF CUSTOMERS

The main difficulties on the part of customers include:

1) The boundaries of employee responsibilities are not clear.

2) Contradictions in the distribution of duties: The powers of employees are enshrined in local regulatory acts. However, in practice, quite often there is a situation when the work schedule is not respected. For example, a personnel officer who enters only personnel information also sends

applications for the payment of benefits to the Social Insurance Fund. The amounts that are reflected in the statement should not be accessible to a simple personnel officer, as you need to check your average earnings and bank account. The confusion in the distribution of responsibilities is transferred to the program, thus, the setting of roles becomes contradictory.

3) The characteristic variability of customer needs: The programmer spends a lot of time to create complex reports and processing. Initially, they discuss what needs to be done exactly and what results need to be obtained. But after the work is done, users realize that processing should work out very differently. Accordingly, extra time is wasted to change work. Such a situation may arise in severe time shortage mode (Zakharova, 2013).

3.3.3 TECHNICAL PROBLEMS

Technical problems of a typical "1C: SAM" configuration include:

1) Release error: When you change the legislation on the preparation of regulated reporting, 1C developers quickly make a new release of the program. But it happens that when you update a release the report is not compiled correctly, and the deadlines are near. All this can lead to penalties for the enterprise (Goncharenko, 2011).

2) Defective documents or reports: The program has wide functionality, but some subtleties in the work are not taken into account. For example, in many enterprises, various bonuses and surcharges are assigned for the past period, but there is no possibility to register documents "retroactively" in SAM if there is a date for the prohibition of changes. However, there is a specialized document for assigning planned accruals in which there are two fields with the "Date" type, but it does not affect the operation.

4. POSSIBLE SOLUTIONS TO IMPLEMENTATION DIFFICULTIES

Table 1 presents possible solutions to the identified problems during the implementation of "1C: Payroll and personnel management". These solutions can be supplemented or modified in accordance with the intricacies of the work.

Table 1: Methods for implementation problem solution.

	Type of problem	Possible Solution
1.	Difficulties on the part of the contractor	
1.1	Low qualification of the main participants of the project group	Creation of the project group from beginners and experienced specialists
1.2	Assignment of a difficult task to one specialist	Distribution of long-term and complex tasks between two employees.
1.3	Lack of information resources	Providing access to Internet resources
1.4	Using an improper server	Providing a server in accordance with the needs of the company
1.5	Auto-save function disabled	Enable copy function. If it is not possible, the consultant must make daily-copy
2	Difficulties on the part of the initiator	
2.1	The boundaries of employee responsibilities are blurred	Drafting and support of duty instructions and work regulations
2.2	Contradictions in the distribution of duties	
2.3	Characteristic variability of customer needs	
3	Technical problems of a typical configuration 1C: Payroll & HR management	
3.1	Release Error	Backing Up the Database
3.2	Defective documents or reports	The use of specialized sites for communication with developers.

5. RESULT AND DISCUSSION

The program “Salary and Personnel Management” developed by 1C LLC allows you to automate the maintenance of personnel records, payroll, and reporting to state authorities. A typical solution can be used to keep records of mid-level enterprises, as well as to automate the work of large companies. The most common delivery option is the integrated solution “1C: SAM CORP”, which allows you to respond to changes in personnel records quickly and give an appropriate assessment of staff at a high level.

A HR manager oversees the personnel functions of an organization including compensation, benefits, employee relations, HR information systems, training, workforce planning, recruitment and employment, and health and safety.

According to the latest data from the U.S. Department of Labor's Bureau of Labor Statistics (which calculates growth in 10-year increments), the employment of HR managers is projected to grow by 9% between 2016 to 2026, about as fast as average for all occupations. As new companies form and organizations expand their operations, they need HR managers to oversee and administer their programs. HR managers are also required to ensure that firms adhere to changing and complex employment laws.

5.1 HUMAN RESOURCES JOB DESCRIPTION

HR managers develop personnel policies in consultation with senior executives and department heads. HR managers also hire train and supervise human resource specialists and HR, assistants. Additionally, HR managers are tasked with creating strategic recruitment and succession planning to create a workforce strong enough to meet the future goals of the organization.

HR managers work in private companies, non-profit organizations, government agencies, and educational institutions. Those employed at small organizations tend to be generalists (juggling many responsibilities) while those at larger organizations may specialize in a particular HR discipline such as employment or benefits.

Typically, HR managers work full-time in offices. About one in three HR managers worked more than 40 hours per week in 2016, according to the Bureau of Labor Statistics. According to PayScale’s survey data, HR managers report high job satisfaction, with the majority describing themselves as extremely satisfied with their work.

5.2 EDUCATION AND TRAINING REQUIREMENT

HR managers need strong interpersonal skills. They often have to manage tough situations in the workplace that require the ability to communicating with people effectively. Because this role often involves mediating disputes, experience with and training in conflict management would be a plus. Other key skills include decision-making skills, leadership skills, organizational skills, and speaking skills.

Typically, HR managers have a bachelor's degree in business administration or HR management. Some managers pursue other majors in the liberal arts, such as psychology, and specialize at the master's level. Other degrees at the bachelor’s level that would be acceptable include finance, business management, education, or information technology. Those looking to advance further up the corporate ladder (or seeking a job with a Fortune 50 company) typically acquire an MBA with a concentration in HR management or a master's degree in HR management.

One of the key benefits of a career in HR is that there are many different opportunities to choose

from. HR managers can develop advanced knowledge in specialty areas within the field such as labor relations, compensation, benefits, leadership development, employee engagement, and talent acquisition. The Society for Human Resource Management offers training modules in many of these specialized areas.

5.3 HUMAN RESOURCES MANAGER SALARIES

According to the Bureau of Labor Statistics, HR managers earned a median pay of \$110,120 in 2017 or \$52.94 per hour. The lowest-earning 10 percent of HR managers earned less than \$65,040, and the highest 10 percent made more than \$197,720.

Some industries pay higher wages than others for these positions. The highest paying industries for HR managers in 2017 were related to finance, cable and subscription programming, computer manufacturing, and scientific research. The highest concentration of human resource manager jobs was in the management of companies and enterprises, office administrative services, consulting, and audio and video equipment manufacturing.

The states where HR managers earned the most on average in 2017 were New Jersey, Rhode Island, the District of Columbia, New York, and California. The states with the highest employment levels for these jobs were California, New York, Illinois, Texas, and Florida.

As with many occupations, education tends to boost earnings. Candidates with certification or a master's degree—particularly those with a concentration in HR management—have the best job prospects. According to PayScale, skills like performance management and organizational development tend to raise pay.

Learn more about HR certification at the HR Certification Institute (HRCI), The International Public Management Association for Human Resources (IPMA-HR), and The Society for Human Resource Management (SHRM).

6. CONCLUSION

The program “1C: Payroll and Personnel Management” is focused on personnel and accounting service problem solution. The software solution was implemented in accordance with the legislation of the Russian Federation, therefore, the organization activities in the field of personnel will always be regulated and transparent. The ability to generate various types of reports optimizes management accounting. The introduction of a multifaceted system is accompanied by the emergence of difficulties, but the solution leads to increased work efficiency. The software solution “1C: Payroll and Personnel Management” occupies the second place in the ranking of business automation systems within the framework of personnel management.

7. DATA AVAILABILITY AND MATERIAL

Data involved in this study can be requested to the corresponding author.

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9. REFERENCES

- Anshin, V. M. (2013). Project management with the concept of sustainable development. *Research and Development. Russian Journal of Project Management*, 2, 3-15.
- Artemiev, D., Gergert, D., & Ponomareva, T. (2013). Strategic project management: goals, stages, tools. *Problems of theory and practice of management*, 3, 106-115.
- Goncharenko, S. (2011). Project Management. *Quality Management*, 8, 44-46.
- Gryanina, E. A., & Kharitonov, S. A. (2013). Organization of personnel records and payroll. 448 p.
- Vishnyakova, M. (2012). KPI for the project manager. *Handbook of personnel management*, 6, 102-104.
- Zakharova, A. M. (2013). Project Management: Technical VS Human Skills. *Personnel Development Management*, 1, 82-86.
- World Bank, 2000. Current Records Management, Poverty Reduction, and Corruption Control: A multi-sited videoconference workshop with Ghana, Tanzania, and Uganda, [Online] Available: <http://web.worldbank.org/WBSITE/EXTERNAL/EXTARCHIVES> (Accessed 14th July 2004)
- Gill, S.L., 1993. File management and Information Retrieval systems: a manual for managers and technicians, Englewood: Library unlimited.
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