At some point, every manager in charge of port or cargo terminal operations will come face to face with the question: what is the best way to increase productivity, reduce the frequency of personnel and equipment idle periods, improve document management and planning, and establish a proper system for reporting?

Sooner or later, one will arrive at the conclusion that a comprehensive solution to this entails a real system, which is capable of establishing order not only for terminal operations but for personnel and documentation as well.

Hidden pitfalls
Many start by brainstorming in an attempt to tackle the issue from every angle, holding lengthy discussions and assigning the most experienced employees to categorise and cram all operative matters into one huge spreadsheet. However, the problems arising when maintaining such a table never seem to cease, and with increasing turnover and new personnel, the table quickly becomes obsolete, while everyone starts to regret the loss of time and dozens of disparate spreadsheets.

Many even go further. The experienced and intelligent are teamed up with computer experts fresh out of school in an attempt to create a proprietary program that will be proudly touted as a system. Such projects often consume vast amounts of material resources and time. The result is that everyone arrives at the realisation that all of these ambitious efforts have not come to fruition as hoped. Building a new program in the 21st century from scratch is similar in complexity to inventing Windows or the iPhone anew.

The most pragmatic and efficient of people will understand that many operational and business processes at ports and cargo terminals have long been defined and optimised. The biggest and most productive terminals are equipped with automated management systems that are capable of increasing efficiency and reducing down times of equipment and personnel. These systems establish order in the flow of documents and reporting while enabling optimal planning and control.

The number of such solutions on the market is relatively large and therefore, in order to choose the right system which can address the problems of a specific terminal by performing the functions of an assistant, secretary, dispatcher, planner, accountant etc. it is first necessary to establish clearly defined selection criteria.

Things to consider
The following criteria was established due to decades of experience in implementing and working with information management systems on a global scale and can serve as a benchmark for choosing the most optimal system.

The vendor
Firstly, consider the number of successfully completed projects by the vendor you are considering, and their experience in the given industry. It is very important to determine whether the vendor has certified, tried and tested, industry-specific solutions, which can be tailored to the requirements and preferences of a specific terminal, for example, solutions for container or dry terminals. The size of the vendor company, its available resources for development and implementation are important.

There must be an experienced implementation team and an effective personnel training system provided during and after the implementation period. In view of their global policy, many vendors often limit training to just a few or even one company-client worker. There is no special focus on the quality of training at individual workstations and as a result, the advantages of using such a system might go completely untapped while large amounts of resources are squandered on software and implementation. Round-the-clock multi-language support should also be available if appropriate, as well as adaptability in offering the ability to integrate the system with various equipment and other systems. Of course, the rational cost of ownership and a transparent pricing policy are also key factors to examine.
The system
You need to consider the scalability of the system. In other words, system performance should not be affected by increasing turnover, number of personnel and overall scale of operations. Think about the modularity of the system i.e. the ability to expand its functionality by means of installing additional modules for handling new tasks. There is a need to be able to segment and conduct step-by-step implementation of the system at any stage of terminal development and at any production capacity level. Here, you should consider factors such as: the operative part, responsible for physical processes at the terminal; the document management system, automating the flow of documents and interaction with clients, service providers and administrative bodies; the statistical data system responsible for reports and analytics; and additional modules for billing, web-portal, or terminal topology editor, (which presents a bird’s eye view of the terminal in real time). Vendors frequently provide only the operative part or the record-keeping component by itself, while marketing it as a fully integrated solution. Therefore, it is important to keep this in mind when viewing the vendor's demonstration of the system.

In conclusion
Undoubtedly, the total cost of ownership (TCO) is one of the most important factors when evaluating a system and would seem to be the most straightforward. Nevertheless, certain pitfalls may be encountered here as well. It is not enough to simply assess a system strictly based on its licensing or implementation price. The cost and level of technical support, follow-up modifications and integration with other systems or equipment (eg. radio terminals) can also significantly impact the final price quote. The majority of the criteria mentioned above is fairly universal and should be taken into account during any type of information system tendering process for all types of facilities.

ABOUT THE AUTHOR
Constantine Sokolov has over 20 years experience in the port industry and has served as the director of business development of Ust-Luga port, with expertise in construction, deployment, expansion, and automation of terminal processes. He is also the founder of two major terminals, including a multi-functional transshipment complex and auto-rail ferry facility. He is currently working as the development director for Solvo Ltd. in St. Petersburg, Russia.

ABOUT THE COMPANY
SOLVO is the industry leader based on the number of deployed systems and the most trusted solution for terminals and ports in Russia, CIS and the Baltic region. SOLVO has been operating on the logistics process automation market since 1999. The system effectively handles and automates technological operations involving transfer and processing of any type of cargo at the terminal. To date, SOLVO has successfully completed 17 container and cargo terminal projects in Russia, the Ukraine, Kazakhstan, Latvia, and Estonia.

ENQUIRIES
SOLVO Ltd.
Saint Petersburg, Russia, 197341
33a Kolomyazhsky pr.
Tel: +7 (812) 606 0555
Fax: +7 (812) 606 0771
Email: sales@solvo.ru

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Andrey Titov,
Acting General Director
“Commercial Sea Port of Ust-Luga” JSC