



# Solvo.WMS for pharmaceuticals

Solvo.WMS –  
precision management technologies



## Your issues

- Wide assortment – over 10,000 unique items that are frequently in different types of packaging
- Complex tracking by expiration date, batch, lot
- SKU certification (sample picking, storage and printing of certificate documentation)
- Large percentage of unit SKU's at the warehouse
- Large quantity and diversity of orders (from 1000 orders per day)
- Usage of various types of conveyor equipment at the warehouse

## Our solution – **SOLVO.WMS** for pharmaceuticals

“ The WMS solution for pharmaceutical warehouses offered by SOLVO was the only one capable of meeting all our requirements. The reliability of the system and its field experience make this solution one of the best management systems for pharmaceutical warehouses on the Russian market. ”

**Vakhtang Patkhvaria,**

*Director of the Podolsk Branch, ZAO "ROSTA"*

### OVERVIEW

- Effective management of warehouse resources while taking into account:
  - Freshness and date expiration control, including aging, remaining shelf life percentage (RSL) for various client groups;
  - FIFO, LIFO, FEFO, and LEFO product rotation;
  - Record keeping of batch statuses depending on the availability of certification documents during order planning;
  - Lot record keeping with or without sample picking for conducting a lot quality evaluation.
- Effective organization for warehouse with the widest assortment – over 10,000 items in various types of packages.
- **Compliance with international standards, GMP and GDP:**
  - Recommendations for selecting corresponding equipment and software (HW&SW);
  - Collaboration with the Customer's validation team at each stage of system validation from the start of the project or a validation master plan (Validation Master Plan, VMP)

- and onwards – throughout the course of the warranty and post-warranty service periods;
- Offer a "validation packet" (group of validation documents) upon request, which can be used by the Customer when validating the warehouse by a third-party auditor.

### EXAMPLE:

Successfully conducted project design qualification (DQ, DesignQualification) – validation of the design-project in accordance with the GMP standards for the implementation of Solvo.WMS at the warehouse of NPO "PetrovaxPharm", Pokrov Village, Moscow Region. Auditor – Lab&Pharma (Czech Republic).

2013



2012



2012



2011



2010



## STORAGE OPTIMIZATION

- Support of various types of warehouse storage.
- Configurable compatibility rules for goods based on physical-chemical properties during storage including compatibility rules by batch.



+18 C



+2 C



-25 C

## ADVANCED PICKING TECHNOLOGIES

- Effective management of the picking process (incl. unit picking) due to technology allowing to reduce the number of empty runs and, in turn, the time needed to compile an order:
  - **“Multipicking”** – the picker can simultaneously assemble several pick lists for various orders;
  - **“Put-to-Store”** – perform general picking for various orders during wave assembly;
  - **“Dynamic picking channels”** – manage inventory in picking zones while taking into account the required batches in automatic mode.
- Ability to use various order processing technology for each separate type of client (proprietary pharmacy chain, affiliates, tender etc.).

## DOCUMENT MANAGEMENT

- Effective management of certification documents:
  - Document control during receiving and shipping;
  - Printing of required documents during shipping;
  - Monitoring the expiration date of the certification document and associating the current document with the batch status.

## QUALITY CONTROL

- Automated/manual modes for blocking/releasing a lot from QC
- Automated recognition of the quality control marker when the set time is reached
- LHE management taking into account QC statuses

## TRACEABILITY

- Monitor the movement and actions performed with batch/lot loads at every stage in the chain - from the arrival of material at the warehouse up to the moment the finished product is shipped to the client.

**SOLVO works closely with some of the world's leading and most recognized companies in providing clients with the latest and most advanced data terminals:**



## RFID

- As a part of AIDC the systems supports radio frequency identification where needed. Solvo.WMS supports all kinds of RFID equipment - both hand-held and stationary.

## WCS (WAREHOUSE CONTROL SYSTEM) MODULE.

SOLVO can manage all major hardware warehouse automation systems:



2008



2007



2006



2002



2001







## SUCCESS STORIES

### Rossib Pharmatsia

ZAO "ROSTA"



#### THE CHALLENGE

- The main requirements for pharmaceutical warehouses include whether the following parameters can be followed while processing goods: terms and storage conditions, certificate management, quality control, acceptance sampling, weight checks, serial number checks, condition control (for temperature, humidity, keeping time, selling time, etc.), high accuracy and high rate of order assembly, additional control for specific goods (e.g., narcotics and potent medicines), and others.
- The administration of Rossib Pharmatsia set the task to comprehensively automate the warehouse based on a system aimed at managing all technological operations, including personnel and warehouse equipment. The main task of the system was to be able to assemble a large volume of retail orders with high precision.

#### THE SOLUTION

“We conducted a thorough study of the market as long ago as 2001 when we sought for a management system for our Novosibirsk warehouse,” said Vakhtang Patkhvaria, ROSTA Podolsk branch director. “In fact, the pharmacy industry solution offered by SOLVO appeared to be the only one capable of meeting all our requirements. The reliability of the system and its field experience make this solution one of the best management systems for pharmacy warehouses on the Russian market. As a result, all technology operations at the Rossib Pharmatsia warehouses are now managed by the use of Solvo.WMS. Solvo.WMS has been extensively employed at the Novosibirsk warehouse since September 2002 and at the Podolsk warehouse since April 2006.”

#### Pre-Deployment State (Background Information)

- Rossib Pharmatsia of the ROSTA group is the largest pharmaceutical supplies distributor in Russia. The range of pharmaceutical enterprises that distribute their products through Rossib Pharmatsia includes 639 companies across 44 countries.
- The warehouse in Podolsk (located in the Moscow region) is located in a single building. The warehouse has three storage zones with different temperature modes: +15 to +22 °C, +12 to +15 °C, and +2 to +8 °C. The long-term storage zone is equipped with 6-tier racks. The item pickup zone is equipped with a conveyor unit. In this zone, gravitational racks are used to store most of the goods, while shelf racks are used to store low-velocity goods and frozen goods. The forwarding zone is divided into two zones: for wholesale orders and for retail orders. Shipping is done right to the loading docks. The warehouse has a special zone dedicated to narcotics and potent medicines. It includes the following areas: acceptance, long-term storage, forwarding, and shipment. As a result, the entire goods turnover cycle is run within the single zone. With its huge variety of goods, the pharmaceutical warehouse requires a special approach to storage conditions.

#### RESULTS

“Solvo.WMS is currently used to manage all technological processes at our warehouses,” said Vakhtang Patkhvaria. “As a result, managers of various warehouse departments reduced their time cost for routine operations, such as assigning and sending tasks, supervising personnel, etc., and gained more time for carrying out higher-level administrative tasks, such as operative control of the warehouse, optimal utilization of available technical and human resources, etc. The deployment of Solvo.WMS allowed us to efficiently manage our narrow-rack warehouse, to effectively control the conveyor unit, and to quickly compile orders.”

“The reliability and functionality of Solvo.WMS makes it one of the best solutions for pharmaceutical warehouse complexes on the Russian market.”

- Vakhtang Patkhvaria,  
Director of the Podolskiy Affiliate, ZAO "ROSTA"

## "Natali Pharm"

Yerevan, Armenia



### PROJECT GOALS

- Achieve maximum personnel performance and warehouse operation efficiency
- Speed up the assembly of drug supply orders
- Minimize errors in the order assembly process

### THE SOLUTION

In a span of six months, a design project was developed, the solution was fully customized to the customer's demands (including integration with conveyor equipment) and Solvo.WMS was deployed. The final phase—deployment—was most critical and took two and a half months, including the launch of the system into operation in tandem with the entire line-up of warehouse equipment.

Prior to starting work, two deployment concepts were considered: incremental and complex. The client decided to carry out comprehensive modernization of their warehouse using just the complex approach, despite the fact that this choice entailed additional costs due to a mandatory two-day warehouse shut down in order to perform a large amount of preparatory works.

Before deploying the system, ABC analysis was carried out to categorize goods and cargo circulating in the warehouse. Additionally, to achieve highest level of efficiency, stock inventory tallying was performed at the same time as goods were physically moved from the box and pallet pickup zone located on the first floor to the piece pickup zone located on the second floor.

To ensure intersystem integration, SOLVO implemented and introduced software gateways to the Schaefer conveyor system and Schaefer A-Frame order compilation system, as well as to the 1C ERP. In addition, a coordinated plan for remote intersystem testing was agreed upon between all vendors, including different types of tests, such as load, bandwidth,

### Warehouse Specifications

- Storage Area: 2000 sq. m
- Storage Types: Pallet, Box, and Piece
- Number of Storage Units: 6 thousand SKUs
- Orders per Day: 500 (up to 15000 lines)
- Usage of Equipment and Machinery:
  - Schaefer Conveyor Line, and A-Frame Automated System
  - Gravitation and Shelf Racks
  - Solvo.WMS Document Management System
  - Radio Equipment: Datalogic Skorpio Devices
  - Motorola Equipment for Radio Infrastructure Network



order simulation, technology processes, etc. This preparatory phase continued for two weeks.

After the initial installation process of Solvo.WMS was completed, the next phase was to carry out the deployment of warehouse equipment, as well as the testing of Solvo.WMS installation and the intersystem gateways. This phase required three months, lasting from July to September 2010, and finally led to the launch of the entire system for Go-Live.

At the final phase of the project, SOLVO held a training seminar, which enabled warehouse workers, operators and managers to quickly learn how to use the system with maximum efficiency and with minimum costs and effort.

“ It is worth noting the brilliant effort of the implementation team, which conducted the global launch of the system in the shortest amount of time. ”

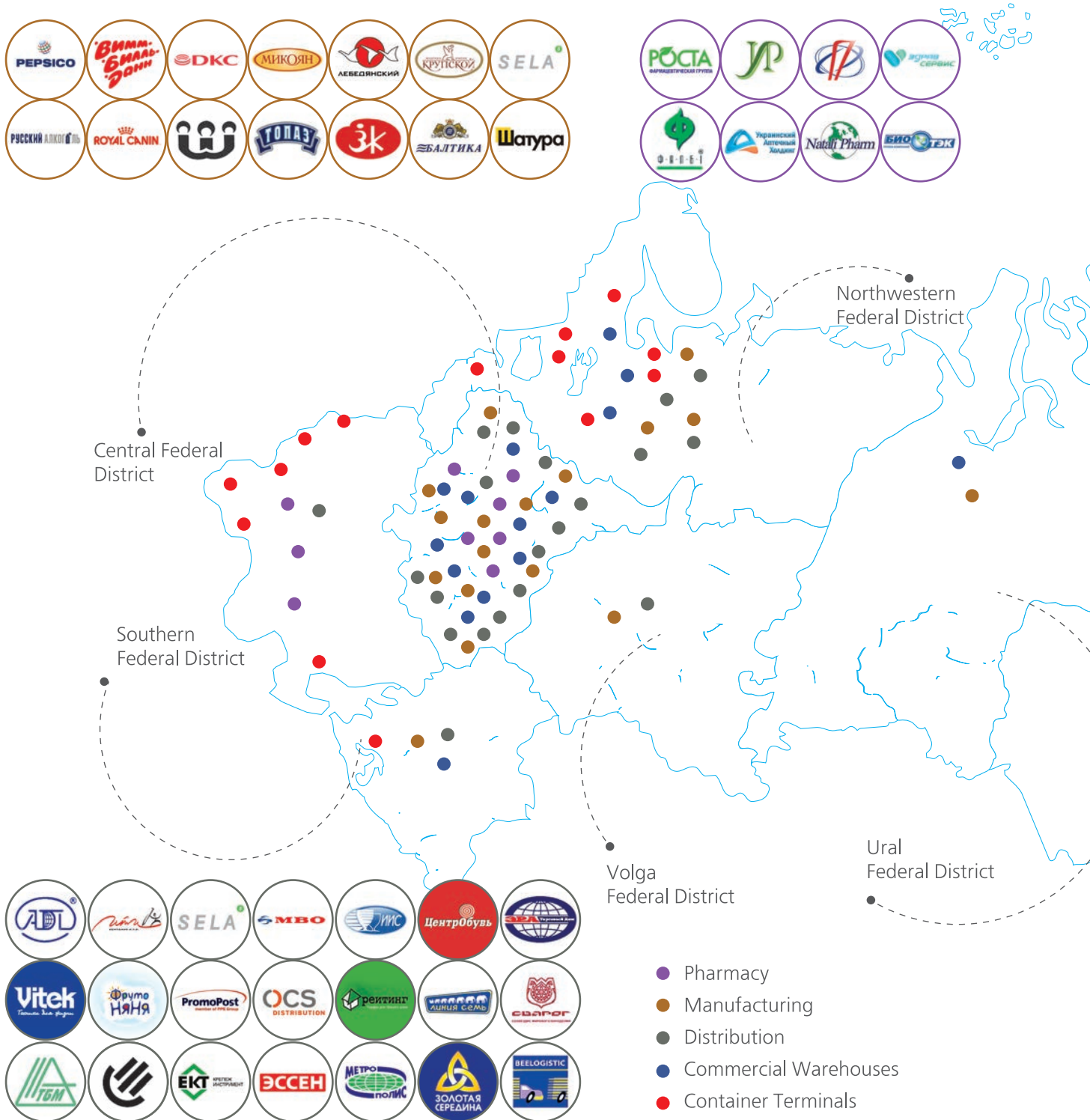
**Arman Kazaryan,**  
Head of the Company Automation Project,  
"Natali Pharm"



## Why Solvo.WMS?

“ The system made warehouse operations more flexible and transparent, which allowed us to look at other company business-processes. Thanks to the management system, the time needed to train new personnel has been significantly reduced since all information related to nomenclature, characteristics and storage locations can be found in the database. ”

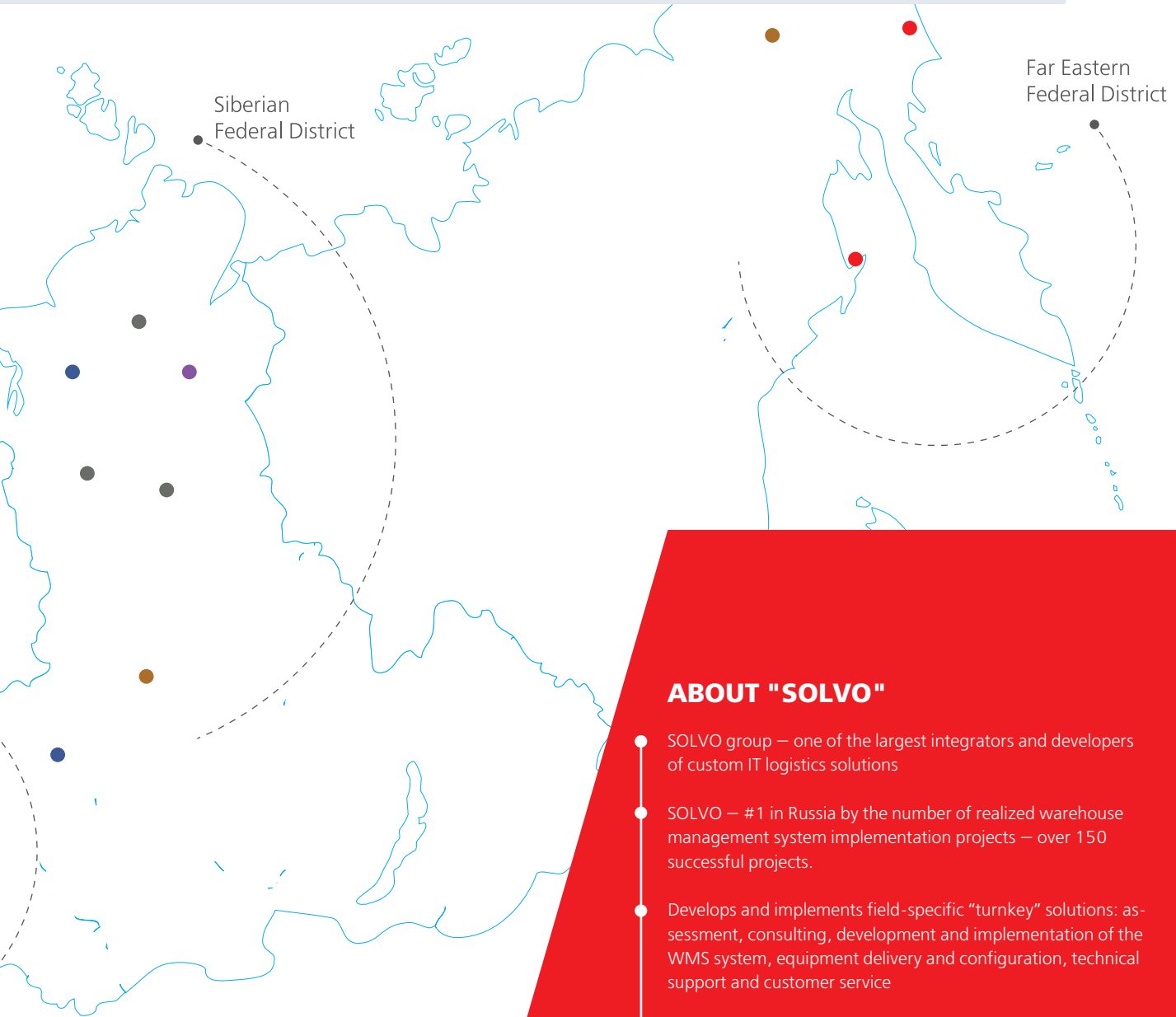
**Evgeniy Dobrovolskiy,**  
Head of the software department, "Falbi"





“ For almost 20 years, we have been successfully helping pharmaceutical companies automate warehouse operations and it is no exaggeration to say that Solvo.WMS is becoming an industry standard. Thanks to the feedback we get from our clients, the system is constantly improving and new in-demand features are added with each new release. Moreover, the range of services to accompany implementation is growing as well – we recently gained additional experience and great success in assisting clients in the validation process for compliance with international GMP and GDP standards and are now ready to provide a wide spectrum of services in this field. ”

**Leonid Hramov,**  
*SOLVO, pharmaceutical industry expert*



## ABOUT "SOLVO"

- SOLVO group – one of the largest integrators and developers of custom IT logistics solutions
- SOLVO – #1 in Russia by the number of realized warehouse management system implementation projects – over 150 successful projects.
- Develops and implements field-specific “turnkey” solutions: assessment, consulting, development and implementation of the WMS system, equipment delivery and configuration, technical support and customer service
- Multilevel 24/7/365 technical support including free updates, hotline, invitations to annual client conferences
- Logistics consulting services
- Client audit assistance





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