

Implementation of Western Purchasing and Logistics Practices for Supply Chain at the NOV Kostroma Manufacturing Plant in Volgorechensk, Russia

By Tumen Ozonov

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In a globalized world, the management of logistics, purchasing and the maintainance of long and complex supply chains from A to Z can be a daunting task.

Computers and the ever evolving world of IT keep things running smoothly, but only after their human creators have first mapped out and encoded every detail of every event, real or imagined, that might occur during their journey along the supply chain.

Add in multiple languages, different taxation and accounting systems, order and invoicing formats to a global operation crossing national boundries with different business cultures and you have a recipe for disaster.

In this article I will share what I consider to have been key lessons learned during my experience in bringing order to chaos as Head of the Procurement, Supply Chain and Logistics Department at National Oilwell Varco's (NOV) \$250 million manufacturing facility in Kostroma, Russia, a greenfield construction project that, when completed in 2015, was NOV's newest and most advanced Drilling Rig and Downhole Tool Manufacturing Plant in the company's global system.

(Editor's Note: NOV has since closed its Kostroma plant and left Russia because of U.S. sanctions imposed on the country. Mr. Ozonov's reflections, however, remain valid for such mega projects, especially those undertaken in countries outside of the U.S. and Europe.)



A load of steel from a local metal works arrives at NOV's Kostroma plant at the beginning of its journey within the global company's supply chain.

Source: Oil&Gas Eurasia Magazine, 2015

Even The Best IT Systems Need Humans To Set the Rules

At the time NOV started construction of its plant in 2013, I was assigned to manage a team that would be tasked with creating, from scratch, algorithms modeling logistics, purchasing and supply chain management scenarios while also overseeing implementation of our company's processes into the Oracle ERP system.

My duties at NOV Kostroma included overseeing the procurement of components, consumables and spare parts for the needs of the plant, getting them from Point A to Point B, and obtaining local certification for the same.

Because NOV is a large multinational company that produces a wide range of high-quality oil and gas equipment in many different countries around the world – equipment ranging from harsh environment semisubmersibles to robust top drive systems, to 20,000 psi blowout preventers – we knew that our own manufacturing processes at Kostroma would require more spare parts, components and consumables than could be imagined.

The new flagship facility of National Oilwell Varco was intended to produce 10-15 drilling rigs per year with hookload capacities ranging from 200 metric tons to 750 metric tons (with rig horsepower ranging from 850 HP to 6000 HP).

The company also offered design configurations and equipment options to allow for mobile, pad or exploratory drilling. So when the project commenced, one of the first questions that management asked was, "how will we manage our purchasing, supply chain and logistics functions at this new facility, and integrate them into our global NOV system?"

Lesson No. 1

– **Make sure you and your team engage in thorough internal discussions with all stakeholders in all relevant departments.** When we did this, we decided to implement the Oracle ERP system because of its ability to process and manage data from all of our business functions, including but not limited to Manufacturing, Accounting, Supply Chain and Logistics, IT and Human Resources.

We also saw in Oracle the advantage of global transparency and ease with which managers in Houston, Dubai and Stavanger could see what we were doing in Volgorechensk, Russia (the Kostroma suburb where we were located) and vice versa.

It would be up to human intelligence however to adapt the relevant IT tools to operate in Russian language given the fact that many of our local suppliers did business only in the Russian language and only according to Russian accounting standards (which are very different from the internationally recognized GAAP or IFRS.)

Lesson No. 2

– **An effective team is experienced in the processes you are attempting to model in your supply chain.** My selection as project manager for Oracle integration at NOV Kostroma was largely due to my engineering education at one of the leading technical universities in Turkey, as well my having had extensive experience in the operation of oil and gas equipment in various countries while working at the start of my career for Schlumberger, and later Weatherford.

My being multilingual – Russian, English and Turkish – also helped.

When we commenced Oracle's implementation, the following tasks were set to guide us through the process:

- 1) Create a new product and materials database that can be used by all employees of the company both at our facility and at all other NOV locations globally.
- 2) Set up maximum process automation with all of our suppliers.
- 3) Integrate all of the business processes with all other departments at the plant, i.e. metal fabrication, manufacturing engineering, accounting, human resources, etc.

But when we began to create the master database, a number of difficulties arose.

You Can Say The World Speaks English, But Some May Argue

Lesson No. 3

– **Cross border operations require multi-lingual systems.** Many of the modules in Oracle demand data input in the English language (or other European languages that use exclusively single-byte alphanumeric characters). Russian language uses the Cyrillic alphabet which we found problematic until we developed a work-around: transliterating Russian descriptions of our products and materials next to their English counterparts.

Employee English competency was also a major issue since most of the local staff had a very limited command of the English language.

Lesson No. 4

– **Beware that when sourcing local content, not all accounting systems are created equal.** Russia, like China, has its own financial accounting system which differs considerably from western standards like GAAP and IFRS used by global companies. Oracle uses western standards as the basis for its default accounting settings.

Since the Russian Federal Tax Authority dictates the format in which financial information, including material assets and products 'in stock', can be reported and our version of Oracle did not have them, we had to create many formats from scratch.

This was especially necessary because we had to purchase many things locally. For example, steel used to manufacture the equipment we sell to our customers came from local Russian steel makers which all operated on the Russian system and within Russian accounting and tax norms.

To solve this problem we had to create new forms with multiple number codes applied to the various items we would purchase – one code complying with the Russian system and one code complying with the international system. These dual codes would follow relevant Russia-sourced products through our NOV supply chain.

Countdown To Oracle Launch – Lists, Lists and More Lists

After we got our forms all set up, we started compiling the list of equipment, materials and components that we would be working with on a day to day basis. We then divided the materials, components and equipment into two categories; 1.) Products made by NOV (products such as top drives, mud pumps, crown blocks, etc), and 2.) Products made by another company (products such as plate steel, electrical components, and auxiliary winches).

As soon as this was completed, we created a quality control system of “checks and balances” to ensure that all information entered into the Oracle system was factual and correct.

Lesson No. 5

– **Don't assume your local supplier lives in the Internet age.** Surprisingly, getting all of our local suppliers to provide required information in electronic format was, at times, a battle. In rural Russia where NOV's new plant was located, many suppliers still use carbon paper as a means of order management. For our plant this was not an option since everything we did was automated and computerized. In time, all of the suppliers that we eventually use provided us with digital orders that we could use in our Oracle ERP system.

Lesson No. 6

– **Multinational companies must accommodate when possible their host country's business culture and legal environment.** Global companies often take a “one size fits all” approach to applying sometimes rigid corporate policies and culture everywhere they work in the world. When possible however, both points of view, and especially legal systems, should be reconciled.

Suppliers in Russia, for example, will never understand why multinational companies ask them to pay attention to FCPA (Foreign Corrupt Practices Act) compliance legislation in the United States, if the product they are selling to you and the transaction itself are both completely inside of Russia. This is a similar story in many other countries outside of Europe and North America.

Because of the paperwork and bureaucratic gymnastics required to meet U.S. legal requirements, we discovered that most suppliers are not interested in adapting to these demands unless our monthly order volume with them was over \$1 million. They will simply walk away if you are too difficult to do business with.

To solve this problem, NOV Kostroma found a hybrid way of doing business that kept us in the good graces of U.S. compliance laws and company policies, while at the same time being compliant with the laws of Russia and adapting to local business culture as much possible.

Lesson No. 7

– **Accept that managing foreign currency risk is a day to day reality across your supply chain.** After separating our purchase lists into critical and non-critical categories, we faced the fact that imported goods (paid for in US Dollars or Euro) could only be sold in Russian Rubles, thus tying our calculation of financial flows to prices that changed frequently because of the Russian Ruble's volatility at the time.

Our solution? We developed a procurement contract mechanism that allowed prices in Russian Rubles to remain stable unless the exchange rate changed by more than 10% during a 90 day period. On more than one occasion we saw that with the high volatility of the Russian Ruble, the exchange rate could rise for a week and then fall back to the previous level, and since the final result is zero net change, the supplier should not raise their prices. The reverse was also true in the event that the exchange rate decreased, then rose back to the previous level, so the system was fair for both parties.

Planes, Trains and Automobiles: Moving Goods Across the Globe

Shipping and receiving can be another challenge depending on the certification rules a country applies to products, components and materials entering the country from abroad. In the case of Russia, NOV had to factor in the time involved to certify imported western components under the GOST/EAC (Eurasian Conformity mark) before those products would leave their country of origin. This could cause problems in meeting a tight manufacturing schedule, and so required careful planning.

Lesson No. 8

– **Never assume anything.** Because NOV's drilling rigs were designed by the company's main design department in Houston, it was assumed that we could purchase in Russia all of the equipment and materials used to manufacture such rigs as if we were located in the U.S. – with the same degree of ease and availability. That was, of course, an incorrect assumption.

Most of the materials and equipment in the original American design were not available in Russia, so we had to go through a redesign of the drilling rigs and replace foreign-made materials and equipment with materials and equipment available on the Russian market.

In general, the tasks set by the company's management were achieved for several reasons. But first and foremost, because of our global experience, we were able to predict many of the problems that might occur under similar conditions in other countries, and avoid them.

Because of my team's efforts, NOV launched its Kostroma plant in 2015 with an already functioning Oracle ERP system. It had taken a little more than a year to plan and implement this world class logistics and supply chain management system; a proud result that could only have been achieved by well-coordinated teamwork and good coordination.

About the Author



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Tumen Ozonov worked for National Oilwell Varco (NOV) in Russia from 2012- 2017 where, as chief of the Procurement Department, he had control and oversight of a \$30 million procurement budget.

After leaving NOV he launched his own company, Alpha Part, which has evolved into a mid-size importer of spare parts for commercial and industrial trucks, and grew its revenue from 0 to \$4 million in its first three years of operation.

Mr. Ozonov started his career as a field engineer with Schlumberger Norge AS, D&M North Sea in 2006. In 2008, he joined Weatherford Drilling International as a project manager before moving on in 2010 to DHL Global Forwarding as Project Manager, Oil and Gas Industry, specializing in transportation, warehousing and international logistics.

He holds a bachelor's degree in chemical engineering from Middle East Technical University in Ankara, Turkey; and completed NOV's 2-year Manufacturing Leadership Program at Rice University in Houston, Texas, USA. Mr. Ozonov speaks English, Russian and Turkish.