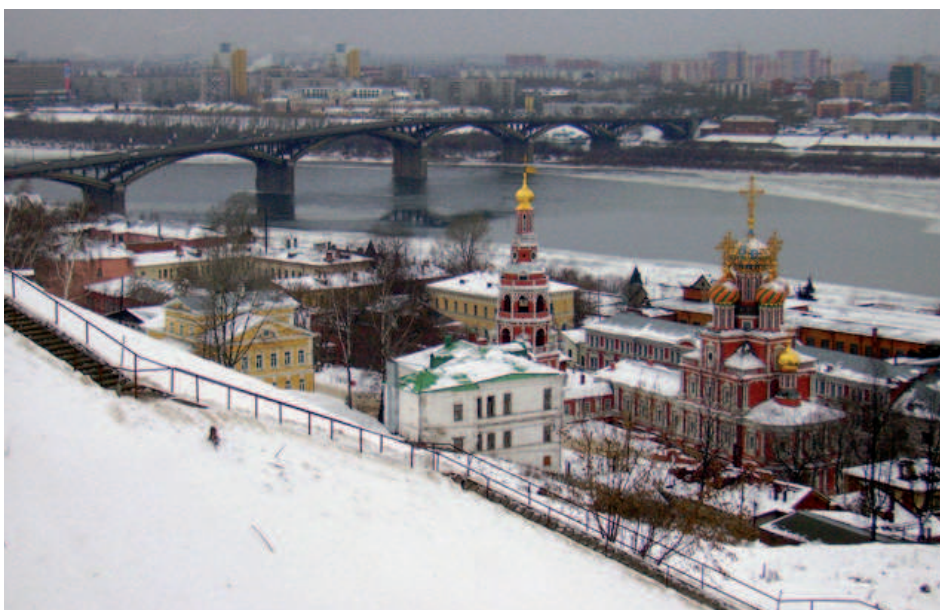


A successful Lean Design Project in Russia

In Nizhny Novgorod, one of the most developed town in the heart of Western Russia, an engineer-to-order manufacturer tells about their latest experience of product development innovation

Alessandro Savioli

Senior Consultant of Jmac Europe SpA



Overview of Nizhny Novgorod, one of the most developed town in the heart of Western Russia

Few weeks ago, after 6 months of hard work, the last “gate” of the new low-voltage switchgear in Nizhny Novgorod (one of the most developed town in the heart of Western Russia) was approved, with full achievement of the cost and time targets originally defined.

In collaboration with the local partner Kaizen Technology Center (KTC), Jmac Europe had just concluded a “cost-half” project in Nipom, a leading Russian firm offering complex solutions for electric power supply and automation. The project aimed to apply the lean principles and techniques to the new product development process.

As these techniques were new for Nipom, a huge preparation activity has been conducted before launching the project, including:

- visits to the best Italian companies to make Nipom managers acquainted with their production systems, their success and problems implementing lean design;
- meetings between Jmac specialists and Nipom management;
- mutual understanding and alignment of the initiative with our customers’ strategy.

On the basis above, the General Director of JSC “Nipom” Mr. Leontyev I.V. made the decision to start the project.

Objectives and solutions

As JSC “Nipom” is an engineer-to-order company, they get a large part of their products designed according to the customer requirements, starting from several typical solutions. Aiming to better fulfill a specific market segment, the company decided to add to the product range a new “entry level - fast delivery” product. The objectives of the project were twofold:

- to reduce the product cost in order to meet a different / lower price for customers
- to reduce the delivery time.

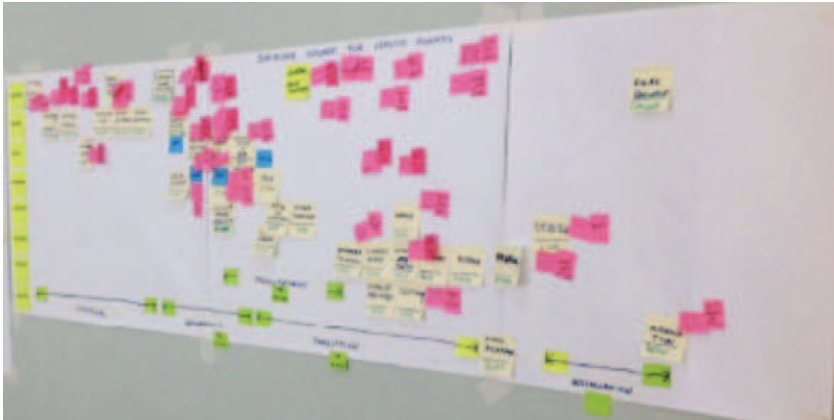


Fig. 1 - Value stream mapping

In order to meet the above targets, the following lean design methods and steps have been implemented.

Stage & gate

First of all the project team redefined the phase and check points for the new product development: activities, responsibilities, deliverables and rules to validate them, were defined for each step of the process.

Value Analysis / Value Engineering

Starting from the customer perspective, the project team defined the needs of the target segment, the features of the product to meet these needs, the proper components to balance cost with the value for customer:

- some standard features were moved as optional;
- some material were changed; new components and suppliers activated;
- a new production process solution (based on pre-kitting approach) was designed and implemented.

Variety Reduction Program

VPR (Variety Reduction Program) techniques related to modularity and standardization were applied to make the product as much configurable as possible with a “Lego” approach. A new configuration software has developed to drive engineers to optimal solutions already tested and available from the shelf.

Value Stream Mapping

The end-to-end process (from the customer request to the product delivery) was mapped using the VSM (Value Stream Mapping) lean technique thus identifying all the waste (MUDA) affecting the process lead time (figure 1). A PDCA action plan was defined and addressed by a cross-functional team made by the relevant

departments involved in the process (sales, engineering, production, quality etc.).

“The methods proposed by consultants were easy to understand, quite simple to implement and very effective to achieve the result”, comments Mr. Efremov, Head of the Engineering Center and New Product Development project leader.

Tangible and intangible results

“Tangible” results related to cost and time reduction (double digits targets, here not disclosed for confidentiality reasons) were completely achieved (figure 2 and figure 3).

In addition, the time-to-market based on the new 5 stage & gate process was respected, with minor follow-up not affecting the launch of the product: the new device was presented in two exhibitions in May and June collecting a significant interest from potential customers, just after 6 months from the kick-off.

A specific attention was paid to the “soft” results of the project: the project team and JSC “Nipom” managers experienced a new way of work implementing a more effective cross-functional approach, a different combination of bottom-up and top-down decision flows, a new combination of visual tools and IT tools. This was the most challenging part of the project.

Lessons learned

We have asked to some of the people involved and here is their voice:

According to Mr. Vadim Kuzmin, Operation Director JSC Nipom:

[...] the project proved that Lean tools, proposed by consultants are efficient in Russian business environment, where customers ask for products of low price, high quality and available in a short time. We had just one request from consultants, i.e. an open minded approach to implement the suggested tools.

Even Mr. Sergei Haritonov, the General Manager of KTC, reports that:

The objectives in the joint project with JMAC were challenging and the work with our new partners was efficient with the usage of new, effective tools of Value Engineering. In Russia this methodology is unknown, though it is used very effectively in Western countries. The main result for JSC “Nipom” is a perfectly new-minded management team, ready to solve complex engineering tasks without



Fig. 2 - The lean principles as successfully applied to design



Fig. 3 - The product engineered and manufactured by Nipom

help from the outside! I have a strong opinion that in the nearest future JSC "Nipom" will become an absolute leader in its business field with the help of the skills acquired in Lean Design and they'll be able to offer better and better proposals to the market from the price, quality and service points of view!

Mrs. Glazkova N.A., Sales director of JSC "Nipom", says that:

[...] the approach justified itself. The work was full of content. From my point of view, the most effective thing was, the spirit of joint generation of ideas and solutions. World-

wide, highly effective tools used to inspire for change. The material we have been working out gets implemented with an impressive desire to see positive results.

Jmac's lesson learned is a confirmation that in this (as in any other) consulting project, methods and tools must not be "adopted by the company", but "adapted to the company", even if the core principles must be kept. At the beginning, our impression was that lean traditional approach might be not properly fitting the Russian business environment and JSC "Nipom" culture; at the end, we realized we were wrong.



Alessandro Savioli

Alessandro Savioli works in consulting since 1995, as a specialist in organizational change programs and process, aimed at improving the company's profitability. His focus is now on the innovation processes (Business Development, R&D, Project Management). His professional knowledge is lay-

ing mainly on Japanese management methods and tools developed and applied in both the manufacturing and service sectors. In addition to consulting and training, has also acted as a Contractor Project Manager in several major international projects.

Un progetto di lean design di successo in Russia

In questo articolo viene presentato il caso di successo di un progetto di lean design sviluppato in Russia. In Nizhny Novgorod, una delle principali città nel cuore della Russia occidentale, Nipom, un'azienda engineer-to-order che offre soluzioni complesse per l'alimentazione e l'automazione elettrica, racconta della loro ultima esperienza di innovazione nel processo di sviluppo prodotto.

Il progetto è stato portato avanti congiuntamente in collaborazione con il partner locale Kaizen Technology Center e Jmac Europe.