Lean Manufacturing Technologies at JSC “Russian Railways”

The Lean Production Project is one of the key ways to increase the efficiency of JSC “Russian Railways” by streamlining processes, increasing productivity and reducing overheads.

The scope of the implementation of the Lean Manufacturing Project was expanded by over five times in 2012 and now covers 553 business units throughout the railways and across all areas of economic activity of JSC “Russian Railways”.

In 2012, 1,628 improvement projects were implemented, and 1640 standards and technological processes were revised. The increase in economic benefit from the project implementation exceeded RUR 260 mln, but a key achievement is that a core of employees has been created which is now engaged and interested in efficiency improvements. Our work was highly praised at the VIII Russian Lin-Forum.

MAIN AREAS OF LEAN MANUFACTURING IN JSC “RUSSIAN RAILWAYS” FACILITIES

№	Principle of the production system	Examples of rolling stock benefits	Examples of track facilities benefits	Examples of traffic management benefits
1	Load balancing	Timely repair of locomotives	Gap scheduling to reduce as much time as possible when sending track machines	Seamless planning of locomotives and crews at the point of departure
2	Flow alignment	Removal of counterflows	One-stop shop principle for all business entities	Managing planning streams, route dispatch
3	Organization of pulling	Replenishment of material and technical resources as required	Just-in-time supply of materials for the track superstructure	Destination station pulls the train from the formation station
4	Autonomy	Automatic operation of test stations without human intervention	Automatic adjustment of station-to-station travel time and train parameter charts when setting restrictions	Alternatives to the formation plan are provided in the technical process of the station and do not require a decision from the Railway Traffic Control Center
5	5S methodology	Maintaining order in the workplace	Maintaining order in the workplace	Dispatcher workplace ergonomics
6	Visual control	Job boards and labels	Network repair diagrams	Electronic displays and color indicators
7	Prevention of human error	Devices and equipment	Work scheduling	Automatic control
8	Common equipment maintenance	Preventive maintenance and scheduled maintenance cards	Maintenance and repair of track machines	—
9	Standardization of technological processes	Monitoring of compliance with flow diagrams	Regulation of scheduling and approval of gaps	Agreed time for the transfer of working plans between dispatchers