

BIM Speeds Up Transport Construction in Russia



The Group of Companies Mosproekt-3 is a leader in BIM implementation for transport projects in Russia. With BIM technology, the group's engineers design underground railways and highways. Today they are actively shaping a local regulatory framework and sharing their experience with the professional community. Anna Merkulova, CEO of Group of Companies Mosproekt-3, described her experience using BIM technology and reflected on its future perspectives.

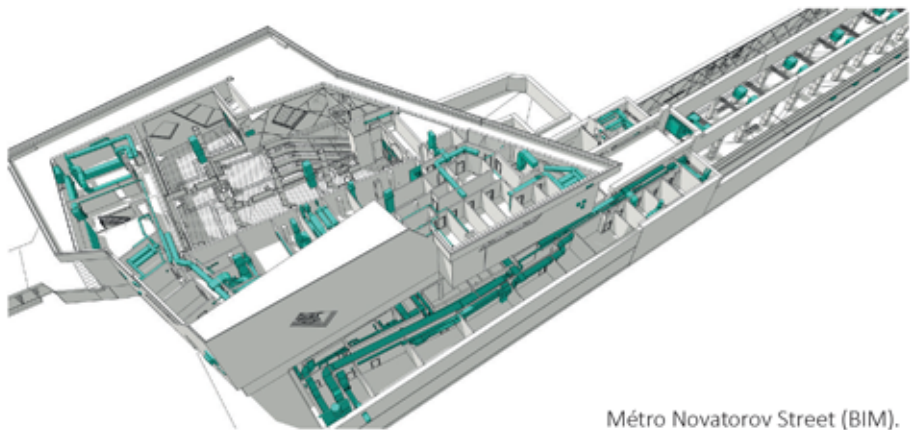
Anna Merkulova, CEO of The Group of Companies Mosproekt-3

ABOUT MOSPROEKT-3

THE MOSPROEKT-3 Group of Companies is a leading Russian centre of engineering competencies providing high-tech solutions in the field of transport construction and integrated territorial development. The holding company was formed in 2014 from the merger of three long-established engineering Institutes: Mosproekt-3, Mospromproekt and MNIITEP. The team of top engineers is actively realizing an unprecedented programme of underground construction in Moscow. Being the country's technical elite, the holding company's specialists continue to introduce new technologies and develop effective solutions based on them.

How widely do you feel BIM is used in the practice of Russian engineers and your experience?

Today BIM technology is one of the trends in the Russian construction industry. From next year, it will be mandatory to use Building Information Modelling technology at all facilities built on government orders. However, already this year, President Vladimir Putin has started to promote the widespread implementation of BIM technology. The Group of Companies Mosproekt-3 has on several occasions been recognized as a leader in the use of Building Information Modelling technology in Russia. Initially, our team used BIM as a complementary technology while working on Moscow underground rail projects—for example, when designing an 11-kilometer section of the Sokolnicheskaya line in New Moscow with four stations (analogous to the "Grand Paris" project). Initially, this corridor, limited for space due to a road, was reserved for a high-speed tram. However, due to the large-scale development of new urban areas, the high-speed tram was replaced by a high-capacity metro. With BIM technology our engineers optimized the layout of the stations, eliminated all collisions in engineering systems at the design phase, and fitted the line between the roads. The successful experience prompted us to think differently about Building Information Modelling technology, and we implemented a 13-kilometer section of the Troitskaya



Métro Novatorov Street (BIM).

line with five stations in New Moscow at a qualitatively better level. This was the first underground rail project in Russia to be designed entirely using BIM. Building Information Modelling technology is particularly relevant to New Moscow. These are new districts that need to be provided with accessible transport systems as soon as possible. With the help of BIM, contractors can determine the exact volumes and delivery times of materials and equipment to the construction site, which significantly speeds up the launch of the line.

How do you use BIM in road construction?

The Northern alternative route of Kutuzovskiy Prospekt is an important project for our team. It is the first intercity toll road in Russia. For this project, Mosproekt-3 Group engineers did a titanic job and created a great BIM model covering 320 hectares of Moscow land with overground and underground infrastructure. Today our professionals are making heavy use of Building Information Modelling technology to design a complex section of the «Western Europe – Western China» International Road Corridor.

The route will connect several economically developed regions of the country and will be a cargo transit route between Europe and Asia. This facility is of the highest class and requires the use of thoroughly worked out engineering solutions. Building Information Modelling technology allows us to achieve outstanding quality.

What prospects do you see for the spread of BIM technology in Russia?

The attention of government agencies, operational legislative changes (the concept was legally consolidated only in 2019) and the interest of customers allow us to look confidently into the future. We have accumulated extensive experience not only in the use of BIM, but also in the formation of a local regulatory and technical base. For example, in the Russian Tunnel Association (a national member of the World Tunnel Association), Mosproekt-3 Group personnel have developed and proposed for adoption two regulatory documents. We are also creating a library of standard elements which can be used by other market players.

How are you going to leverage your experience in the international markets?

Mosproekt-3 perfectly combines a rich experience with advanced technologies. The holding company has been around for over 50 years and has more than 1,500 professionals. Over the past 10 years we have been key participants in mega-projects for the Moscow Mayor's Office, where we have interacted with European and Asian companies. We are confident in the relevance of our knowledge and experience to international markets and we can point to our participation in current projects.