

# ROLLING STOCK IMPROVEMENT IN 2020–2025

**JSC FPC is continuously working to improve passenger carriage design with a particular focus on the comfort and functionality of a passenger seat.**

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## MODULAR THIRD-CLASS OPEN-PLAN SLEEPING CARRIAGE

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The carriage concept development was commissioned by JSC FPC.

The carriage features the traditional layout of passenger berths; however, the design and ergonomics were changed dramatically. The primary purpose of these changes was to improve personal comfort and provide passengers with the opportunity to tailor the space to their individual needs.

The concept has kept traditional-layout berths convenient for large groups travelling together or senior passengers but also offers new berths for improved privacy achieved by using individual partitioning sections that can also be used to hold hand luggage and outer garments.

The modular carriage concept provides personal space for each passenger by using the following:

- Individual curtains closing off a berth
- Closets for personal items and luggage in the passenger compartment
- Ladder and a handrail to access the upper berth
- Lighting at the head of each berth and individual reading lights (in addition to general ceiling light)
- Individual air nozzles with temperature control
- Power sockets (220 V) and USB ports.

Given the planned transition to larger carriages (size T, used for electric trains), the implementation of this concept will enable adding one more passenger compartment to a carriage, increasing the length of berths and fitting a shower into a dedicated cubicle.

The new concept includes a range of measures to ensure the following:

- Fire safety (use of appropriate materials, fire alarm system, fire exits, water suppression system, first-aid firefighting equipment)
- Traffic safety – reliability of units (running gear, couplings, gangway platforms, brakes, etc.)
- personal security (a CCTV system).

Yet another R&D focus area is the Carriage–2023 model range, envisaging the development of single-decker locomotive-hauled carriages in size T and push-pull double-decker electric trains. The project's stage one was the design of the modular open-plan carriage described above.