

## Promoting innovation of transportation system in the Tokyo metropolitan area

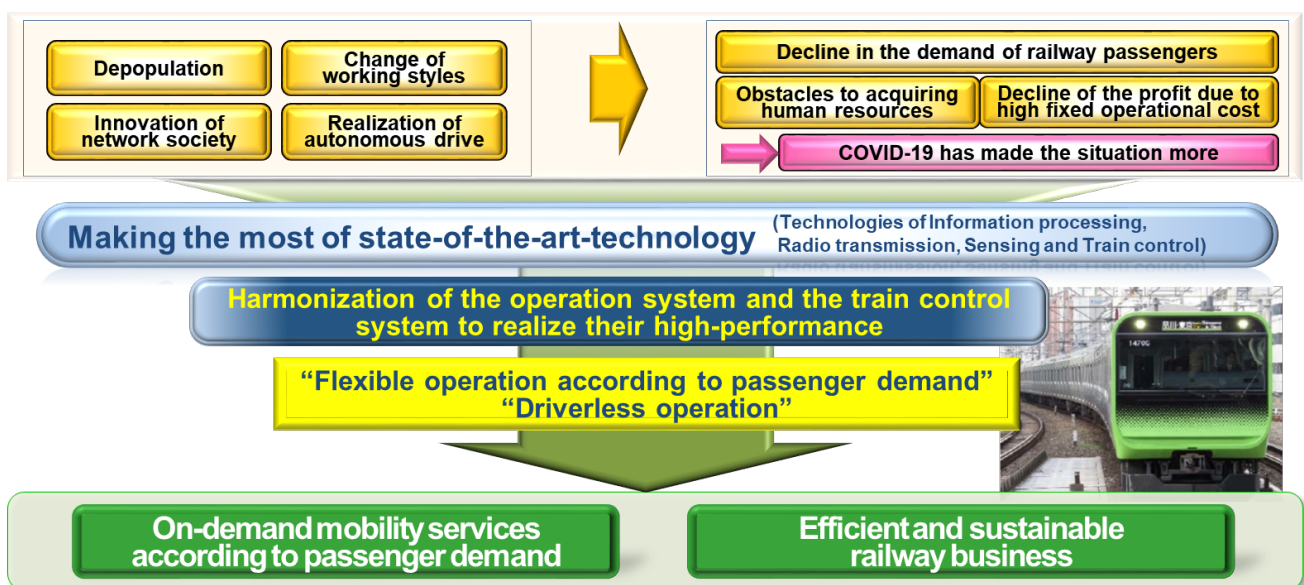
- JR East has been promoting innovation of transportation system in the Tokyo metropolitan area in order to further realize user-friendly mobility service, SDG-conscious railway business and work style reform for our employees through technological innovation.
- As a part of this effort, JR East will improve the stability of train operation and realizes flexible operation according to passenger demand by introducing ATACS and realizing high-performance ATO. (Brownfield-Deployment) JR East will also prepare for driver-only operation on the major lines in the Tokyo metropolitan area.
- Furthermore, JR East will work on technical innovation in order to realize driverless operation.

ATACS: Advanced Train Administration and Communications System

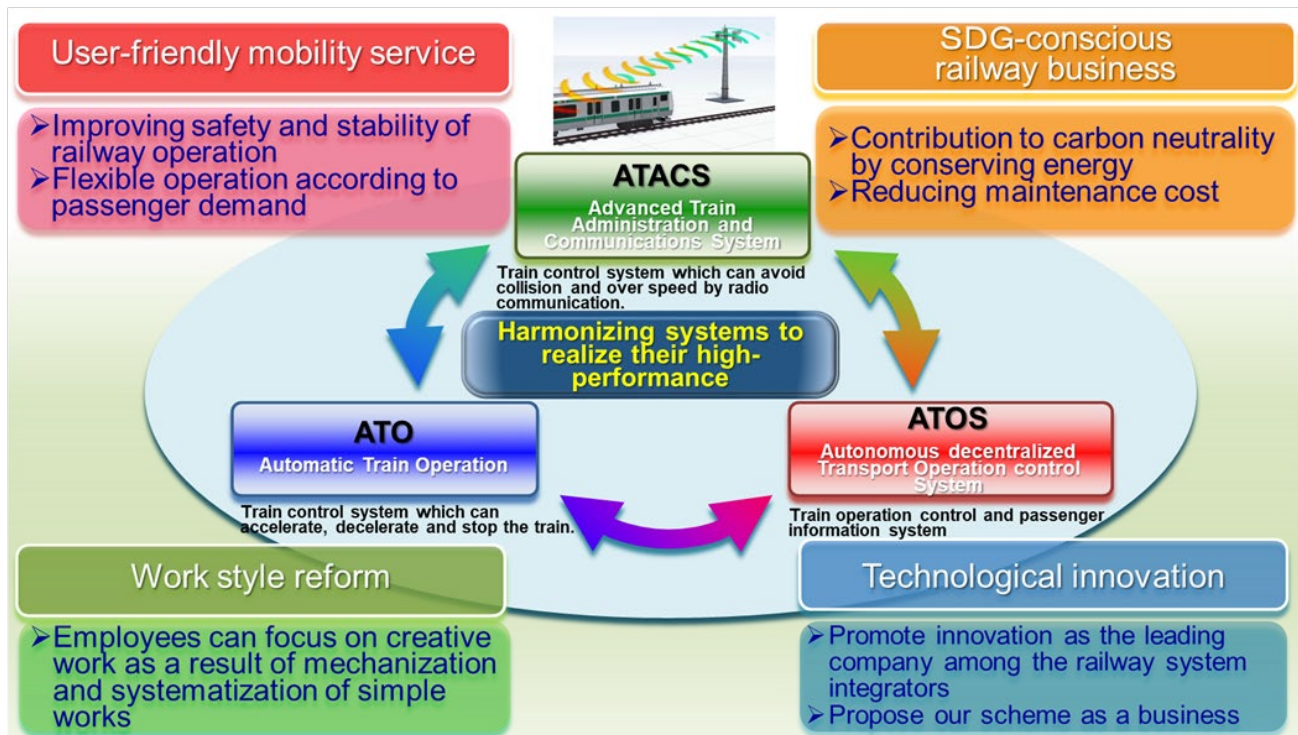
ATO: Automatic Train Operation

### 1. Innovation of transportation system in the Tokyo metropolitan area

JR East is aiming to provide on-demand mobility services according to passenger demand and run an efficient and sustainable railway business by harmonization of the operation system and the train control system.



## Innovation of transportation system in the Tokyo metropolitan area

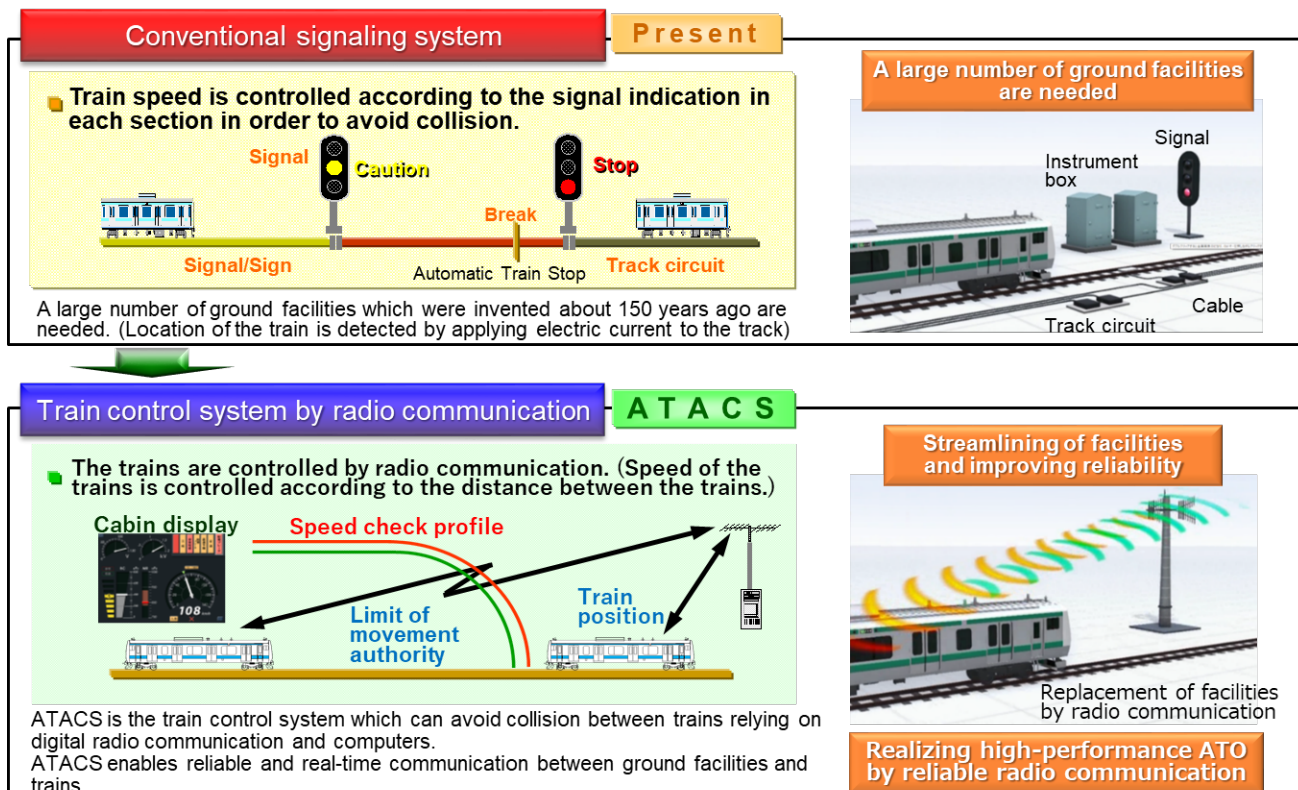


### The aims of JR East's innovation

## 2. Introducing ATACS and high-performance ATO

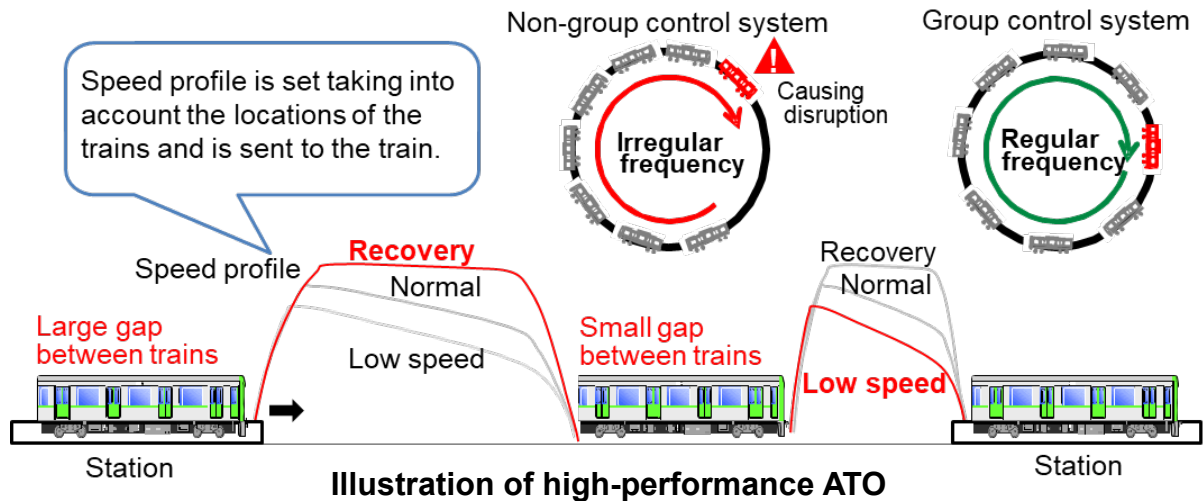
ATACS is a new train control system which can control trains through radio communication between the trains and the ground facilities in the way that the train location is not detected by track circuit but the location of preceding train is detected by the following train.

Target Lines: Yamanote-Line, Keihin-Tohoku-Line (Omiya – Higashi-Kanagawa)



### Comparison between conventional system and ATACS

The application of radio communication in ATACS will enable high-performance ATO because of real-time and reliable communication between the ground facilities and the trains. ATACS, in coordination with ATOS, will realize efficient train operation as a whole line such as recovery from delay and energy-saving operation through group control system. Furthermore, JR East will promote technology development in order to realize driverless train (GoA3) in the future.



3. Preparing for driver-only operation on the major lines in the Tokyo metropolitan area  
JR East will work on the improvement of the rolling stock and the stations for driver-only operation. ATO will be introduced in a part of our network in order to improve punctuality and realize energy-saving operation.  
Target Lines: Yamanote-Line, Keihin-Tohoku-Negishi-Line, Nambu-Line, Yokohama-Line, Joban-Line (Local), etc

#### 4. Schedule

JR East is aiming to launch the services of ATACS and high performance ATO in around 2028 to 2031 and will make preparation for introducing ATO and driver-only operation in around 2025 to 2030.

