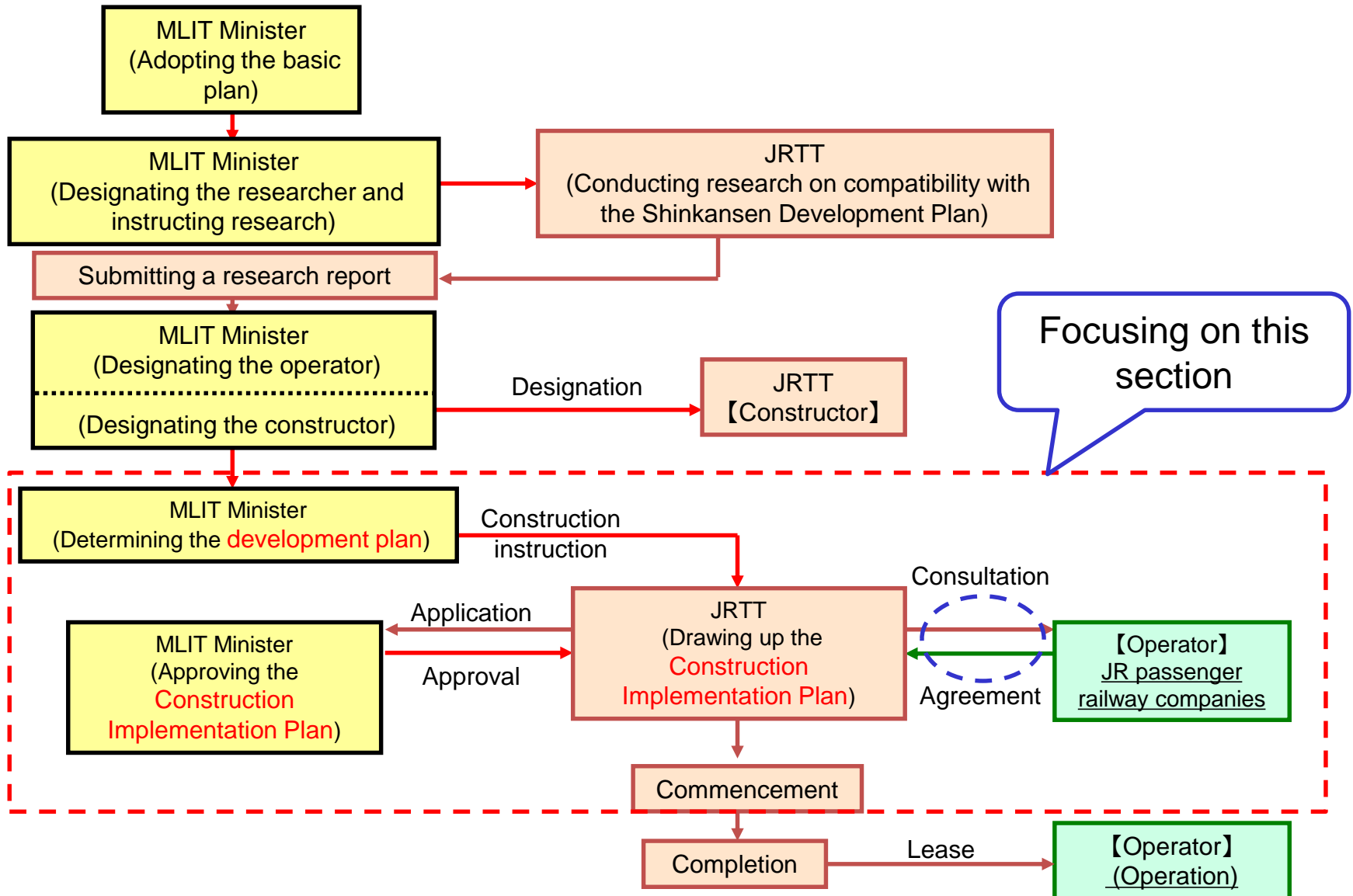


整備新幹線の計画から建設完了までのワークフロー

*このスライドは鉄道・運輸機構により作成され、IHRAに提供されたものです。

*IHRAの許可なく転載・引用することはお控えください。



Consulting with the operator from the stage of drawing up the Construction Implementation Plan to construction completion in view of future railway operations and maintenance

Shinkansen Development Plan

MLIT Minister determining a development plan and instructing construction to JR TT

1. Construction line
2. Section
3. Operation method
4. Maximum design speed
5. Approximate cost
6. Others (main en-route locations)

Construction Implementation Plan

Drawn up by JR TT and submitted to the MLIT Minister for approval

1. Route name
2. Construction section
3. Track locations
4. Total track length
5. Station locations
6. Locations of depots and inspection / repair facilities
7. Construction method
 - a. Minimum curve radius
 - b. Steepest gradient
 - c. Center-to-center track spacing
 - ...
8. Construction budget
9. Scheduled construction commencement and completion

JR TT consults the operator in drawing up the Construction Implementation Plan

- From the planning stage to construction, JR TT and JR, which is the future operator, set up an “implementation council” to continuously consult each other on the matters listed below.
- Backtracking on the construction stage can be avoided by compiling the Construction Implementation Plan in consultation with the operator in view of future operation and maintenance.

Timing	Examples of matters for consultation
Before construction commencement	<ul style="list-style-type: none">• Route name• Construction section• Detailed track locations• Total track length• Detailed station locations
After construction commencement	<ul style="list-style-type: none">• Vertical and plane alignment• Types of structures (if requiring changes)• Positions of maintenance facilities such as maintenance staircases• Use of special structures• Height of noise barriers based on surrounding environment• Countermeasures for snow damage

Shinkansen Railway Liaison
Council

High-level deliberations on the basic
construction policy

Shinkansen Railway Construction
Implementation Council

Detailed deliberations on the following
based on the basic policy

Civil Engineering Facilities Sub-
Group
Station Facilities Sub-Group

- Construction Implementation Plan, etc.

Snow-Damage
Countermeasures Sub-Group

- Snow removal method, snow-damage control facilities, turnout malfunction countermeasures, snow removal on rolling stock depots, wiring at rolling stock depots, etc.

Track Facilities Sub-Group

- Construction Implementation Plan, track facilities, development of necessary technologies, etc.

Electrical Facilities Sub-Group

- Electrical facilities, design approach, development of necessary technologies, etc.

Maintenance facilities installation plan

- Maintenance ramps: required to bring in road-rail vehicles and transporting materials for facility maintenance.
- Maintenance staircase: for those who carry out maintenance and inspection work.
- From the design stage, JR TT and the operator consulted each other on the installation of maintenance facilities based on the maintenance plan.

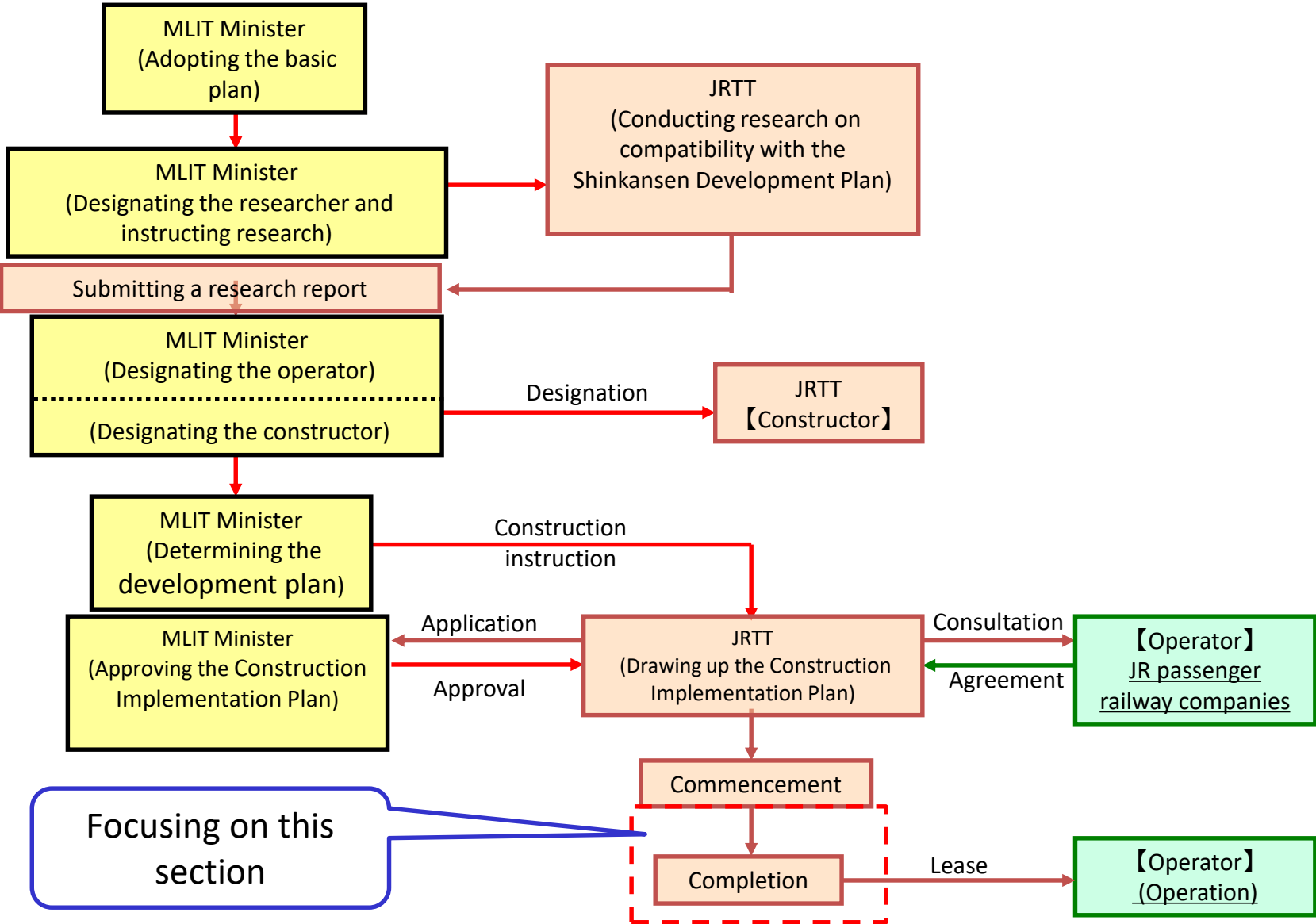


One ramp in every 5-7km as a guide
(in the case of Hokuriku Shinkansen
between Kanazawa and Turuga)

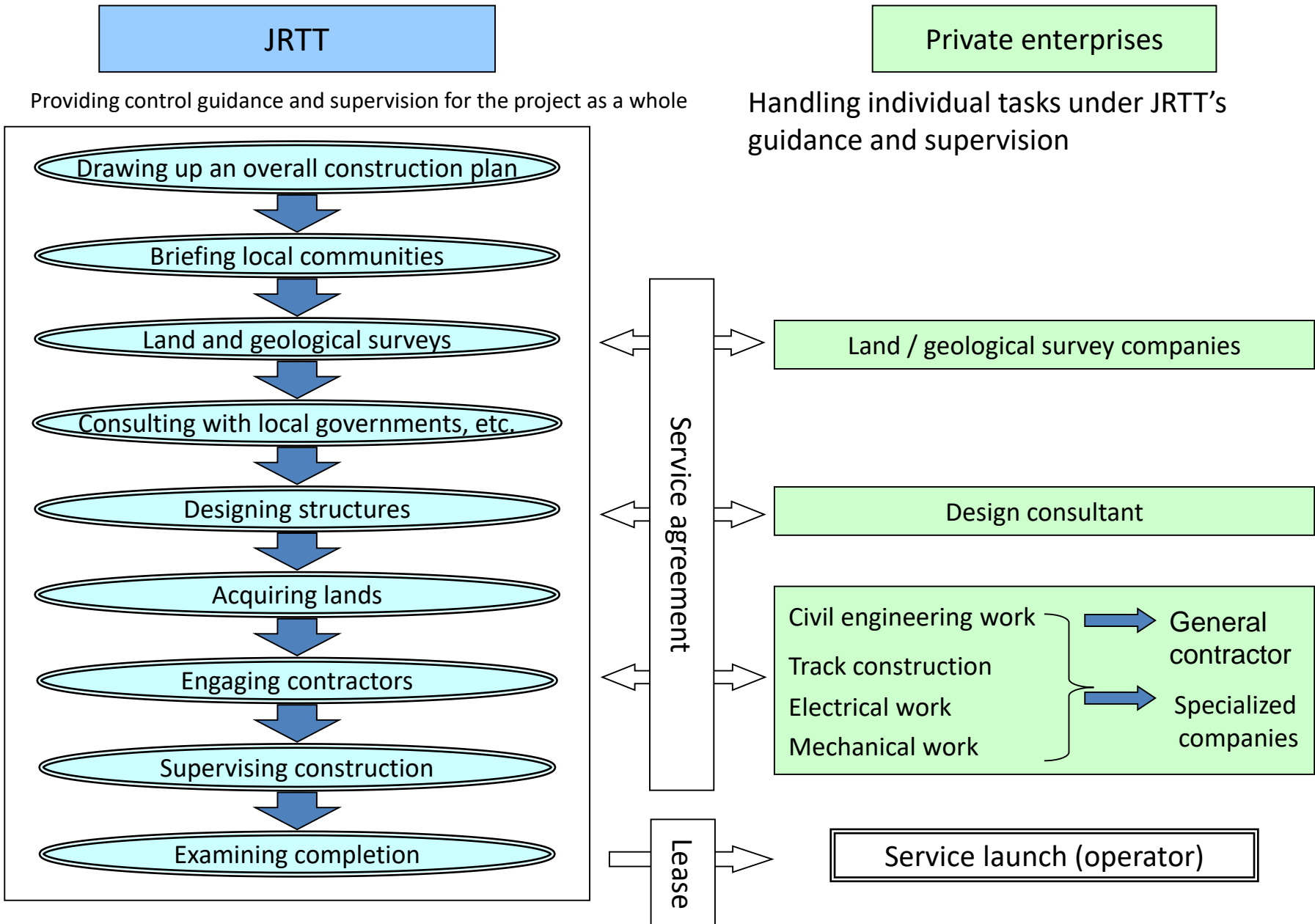


One staircase in every 1.5-3km as a guide
(in the case of Hokuriku Shinkansen between
Kanazawa and Tsuruga)

Projected Shinkansen workflow from planning to construction



JR TT's roles in Shinkansen construction

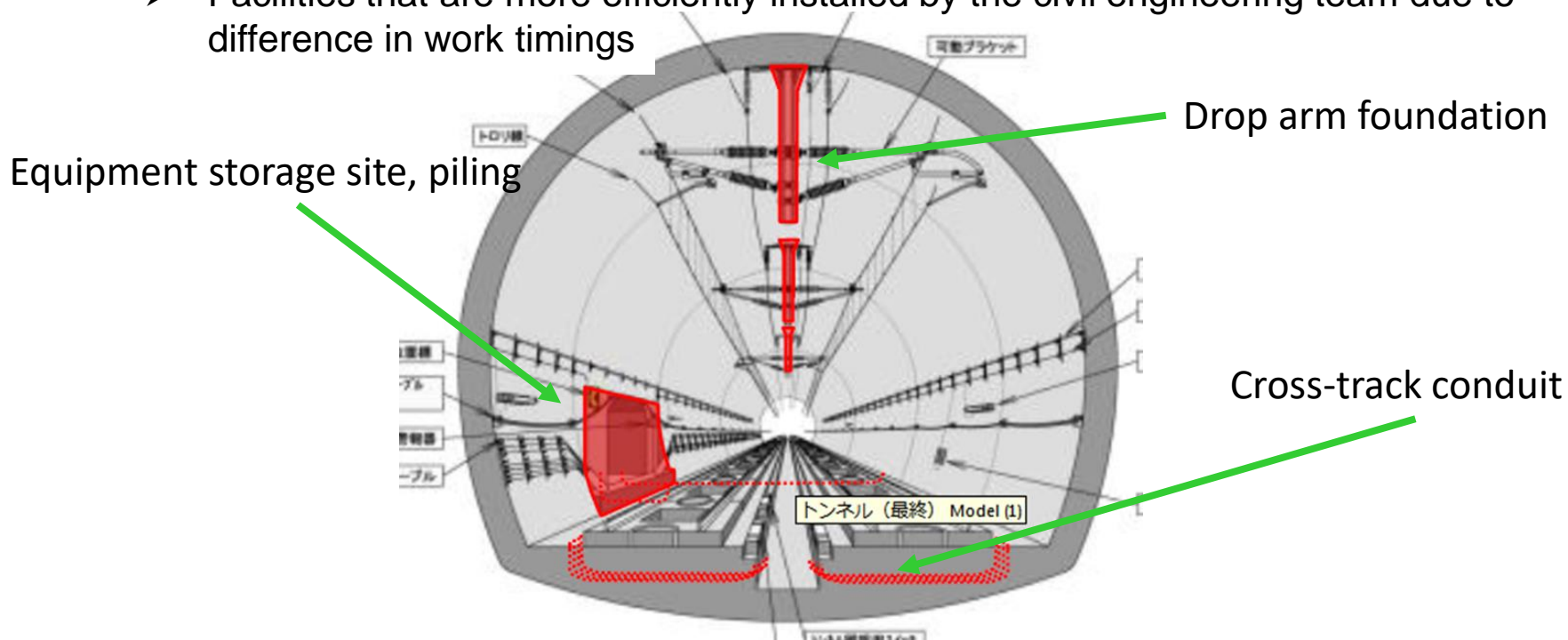


- Railway operation represents general technology that consists of individual technologies.
- For this reason, in the construction stage, JR TT must not only consult the operator but also engage in consultation / coordination with departments within JR TT in proceeding with the project.

Category	Tasks in charge
Siting	Acquiring land, offering compensation, etc.
Civil engineering	Building civil engineering structures, etc.
Tracks	Laying railway tracks, etc.
Mechanical	Installing rolling stock inspection / repair equipment, elevators, etc.
Architectural	Building station buildings, electrical buildings, etc.
Electrical	Installing cables for receiving, feeding and distributing electricity, contact lines, etc.

Coordination between the civil engineering and electrical teams

- When installing electrical facilities, the electrical team must prepare the foundation for electrical equipment and underground conduit for passing through electrical cables in advance.
- For facilities that have the following characteristics, the electrical team must assign the civil engineering team to carry them out. This is called “civil engineering commissioning.”
 - Facilities that are more efficiently installed together with structures by the civil engineering team
 - Facilities that could damage structures if installed by the electrical team
 - Facilities that are more efficiently installed by the civil engineering team due to difference in work timings



- JR TT and the operator also consult each other to determine the position and scale of train crew offices / maintenance yards as well as the scale and specifications of employee training facilities when the operator reaches the stage of considering specific structure and method of maintenance administration.



Shinkansen maintenance yard



Shinkansen crew office

- Various organizations carry out the following audit / inspection to confirm that all railway facilities meet their required performance and specifications.
- The project schedule must be drawn up and managed in view of not only the construction period but also the timeframe for these inspections, which require a period of over one year in total.

	Inspector	Description
Construction completion audit	JRTT (constructor)	Carried out by JRTT's head office on the applicable regional branch where the construction has taken place according to the Construction Completion Audit Regulations
Facility inspection	JR (operator)	Carried out in cooperation with JRTT to examine the applicable facilities' finish, conditions and compliance with various standards
Completion inspection	MLIT	Carried out on the railway operator (JR) according to the Railway Business Act

Audit and inspection before service launch

