

Yellow Fleet supplier consultation questionnaire

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SECTION A: Supplier Profile (Common to All Modules)

1. Company Information

- a. Legal name
- b. Headquarters and production locations
- c. Year established
- d. Ownership structure
- e. ISO certifications (9001 / 14001 / 45001 / EN 15085 / others)

2. Relevant Experience

- a. Years of experience manufacturing railway maintenance machinery
- b. Reference projects in Europe (last 10 years) / Contract values
- c. Machines delivered with **1,435 mm** gauge
- d. Experience in mixed-gauge machines
- e. Experience delivering to cold-weather / snow regions (Nordic, Baltic, Canada, etc)
- f. Experience in ETCS integration in the machines

3. After-Sales Support

- a. Warranty terms
- b. Local or regional service presence
- c. Availability of spare parts stock in Europe
- d. Remote diagnostics / telematics capability
- e. Maximum response time for critical failures

4. Commercial Questions

- a. Indicative price range (where allowed)
- b. Indicative time schedule for manufacturing & delivery
- c. Optional leasing or rental models
- d. Training included (operators, maintenance staff)



SECTION B: Machine Category Modules

Each supplier answers only the module(s) relevant to their machines.

MODULE 1A: Tamping Machines / Track Stabilizers

Technical Specifications

1. Machine types offered (incl. trailer option for the stabilizer).
2. Supported track gauges (1435 mm, 1435/1520 multi-gauge options – timeline and cost for 1435/1520 multi-gauge options).
3. Max tamping output (sleepers/hour).
4. Lifting and lining capacities¹ (kN).
5. Type of tamping tools incl. capability to tamp turnouts (hydraulic / frequency; tool geometry).
6. Integrated measurement systems (geometry, alignment, cross-level).
7. Tamping based on relative / absolute topographic base.
8. Does the machine meet EN 13848 and TSI INF requirements?
9. Traction effort curve.

Operational Features

1. Minimum curve radius for operation.
2. Maximum operating speed (work & transfer).
3. Automation level (automatic mode, semi, manual).
4. Data import and export formats for track geometry logs.

Maintenance & Support

1. Expected lifecycle (years / km).
2. Daily maintenance time requirement.
3. Tool wear rates (tamping tools replacement interval).
4. Possibility to equip snow removal equipment

MODULE 1B: Ballast Regulators

Ballast Regulator Questions

10. Plow types and blades included.
11. Shoulder shaping capability.
12. Integration with tamping machines (as a set).
13. Operation in snow/ice conditions.

¹ vertical lifting (raising the track/sleepers) and horizontal lining (moving the track laterally into correct alignment) before the ballast is tamped under the sleepers to fix geometry.

14. Possibility to equip snow removal equipment

MODULE 2: Inspection & Measurement Vehicles

1. Maximum speed
2. Track Geometry measurement system (measurement length basis, EN 13848-compliance).
3. OCL geometry measurement system
4. FRMCS / GSM-R field measurement system
5. ETCS measurement system
6. Cameras for vegetation monitoring and checking gauge clearance
7. Cameras for checking track component (fastenings, etc.)
8. Ultrasonic / eddy-current / laser systems
9. Camera resolution, thermal imaging capability
10. GPR (ground-penetrating radar) options
11. Data export protocols (XML, GIS, cloud)
12. Maximum measurement speed (km/h).
13. Integration with maintenance planning systems.
14. Software used for recording analysis
15. Broken rail detection
16. Possibility to equip snow removal equipment

MODULE 3: Overhead Line (OHL) and general infrastructure Maintenance

1. Maximum speed
2. Transport of personnel, tools and light machines
3. Work platform height and lateral reach.
4. Max load on work platform.
5. Ability to work under live 25 kV systems (if applicable).
6. Wiring installation capability (contact wire + messenger wire).
7. Storage drums for wires — capacity & tension control.
8. Winter operation performance (down to –30 °C).
9. Platform (counterweighting) stabilization system.
10. Possibility to equip snow removal equipment

MODULE 4: Bimodal / Road–Rail Vehicles (RRV)

Base machine type (excavator, telehandler, truck-based).

1. Road–rail conversion system (rail wheels, braking, drive type).
2. Max lifting capacity on rail.
3. Travel speed on rail.
4. Suitability for S&C (Switches & Crossings) areas and restricted clearances.
5. Compliance with EN 15746 (RRV standards).
6. Ability to transform from 1435 to 1520 gauge.
7. Use for both 1435 / 1520 gauges by changing the axles
8. Traction effort curve.
9. Compressed air system
10. Coupler types
11. Buffers
12. Possibility to equip snow removal equipment

SECTION C: Compliance, Safety & Environmental (Common to All Modules)

1. Compliance with EU railway standards, TSIs, EN norms.
2. Noise and emissions data (Stage V compliance²).
3. Energy efficiency and fuel consumption rates
4. Availability of hybrid options Fire safety systems onboard.
5. Ergonomics and human factors certification.
6. Climate resilience: minimum and maximum operating ambient temperatures, heat and freeze resistance of systems and components, other environmental operating limits of the equipment (humidity, water ingress).
7. Environmental impact: use of recycled materials, oil-free components, biodegradable fluids.
8. Repairability and maintainability: components designed for repair, interchangeability and spare parts availability time.
9. Take back schemes, recycling & end-of-life plan.

SECTION D: Delivery, Training, Support (Common to All Modules)

1. Delivery timeline for prototype + production machine.
2. Requirements for acceptance testing (FAT, SAT).

² **Stage V** is the current European Union emissions standard for non-road mobile machinery (NRMM) — a category that includes railway maintenance machines such as tampers, ballast regulators, grinders, road–rail excavators, etc.

It is part of the EU Regulation 2016/1628 and became mandatory in phases from 2019–2021.

3. Training plan (operators + maintenance staff).
4. Spare parts package options.
5. Digital twins / virtual training options.
6. Warranty with SLA (service-level agreement³).
7. Minimum uptime guarantees (if offered).
8. Special diagnostic tools

SECTION E: Open Questions to Suppliers (Common to All Modules)

1. What innovations or next-generation features do you recommend for Baltic conditions?
2. New developments in progress (to be available on the market in next 3-5 years)
3. What preventive maintenance schedule do you recommend?
4. Hybrid machines (diesel and electric)

³ A **Warranty with SLA (Service-Level Agreement)** defines not only *how long* the supplier guarantees the machine, but also *how fast* and *how effectively* they must respond when something goes wrong.

In railway maintenance machinery procurement, this is one of the **most critical commercial and operational clauses**.