**ANNEX NO 1: TECHNICAL SPECIFICATION**

Assessment Body (AsBo) services for Rail Baltica GLOBAL PROJECT

(Identification No RBR 2021/3)



Riga, 2021

[1. Abbreviations and Terms 3](#_Toc67072276)

[2. Introduction to Rail Baltica 8](#_Toc67072277)

[3. Context of AsBo services on Rail Baltica 9](#_Toc67072278)

[4. Scope of services 9](#_Toc67072279)

[5. Rail Baltica AsBo task elaboration 11](#_Toc67072280)

[6. Assessment activities 12](#_Toc67072281)

[7. Information on Global Project design 14](#_Toc67072282)

[8. AsBo competences 15](#_Toc67072283)

[9. Inception Report 15](#_Toc67072284)

[10. AsBo independent assessment plan 16](#_Toc67072285)

[11. Rail Baltica AsBo assessment program 17](#_Toc67072286)

[12. Rail Baltica AsBo management plan 17](#_Toc67072287)

[13. Description of work procedures and meetings 19](#_Toc67072288)

[14. Technical description of design and construction scope of Railway infrastructure and energy subsystems 21](#_Toc67072289)

[15. AsBo Services assumptions 23](#_Toc67072290)

[16. Responsibilities of AsBo Experts 25](#_Toc67072291)

[17. AsBo assessment deliverables 31](#_Toc67072292)

[18. Reference documents 31](#_Toc67072297)

[19. ANNEXES 32](#_Toc67072298)

# **Abbreviations and Terms**

* 1. All abbreviations, designations, definitions and terms defined in the applicable laws, regulations, directives, Technical Specifications for interoperability (TSI), standards, rules, Design Guidelines (DG), other guidelines and documents of the Client are used in this Technical Specification without modifications if not defined otherwise herein. In this document unless the context requires otherwise, the following words shall have the following meaning:

|  |  |
| --- | --- |
| * + 1. General terminology | |
| Affected parties | State institutions, local government bodies, public and/or private enterprises, legal or private entities (persons) representing the owners and/or managers of the assets (networks and/or objects of power supply, gas, oil, water, drainage etc.) that are linked to the designed layout of Rail Baltica railway line and shall be considered. |
| CCS | Control-command and signalling |
| Client / RBR | RB Rail AS |
| CSM-RA | Common Safety Methods for Risk Assessment |
| D&B | Design & Build |
| Deliverable | According to Chapter 10 “Deliverables” of this Technical specification. |
| Design Expertise | Professional inspection the purpose of which is to provide evaluation regarding conformity of the technical solutions if the Building Design complies with the requirements of the laws and regulations and technical conditions. |
| Design Guidelines | Set of predefined and standardized technically and economically justified engineering and design solutions for Rail Baltica Railway infrastructure to be applied at design requirements, construction and operation phases. |
| Design Review | Activities required to check design conformity according to Technical Specifications. |
| Detailed Technical Design (DTD) | Final stage of the design process in accordance with National construction law / building act regulations and it gives right to start construction works. It is a set of documents (including drawings in 3D model) which clearly and precisely shows the routes of the railways and all infrastructure objects and facilities and has a detailed design of all scope of the project. Includes the following: the documentation required to start the detailed technical design, geological data of the area in question, textual description of the technical requirements for the usage of the railway, includes a description on the main use of the railway, design and design details on rail superstructures, railway map and cross-section, rail substructure and cross-sections, drainage systems, bridges, overpasses, culverts, railway tunnels, passenger platforms, road and pedestrian tunnels, anti-noise fences, electrical and contact line network facilities, signalling to the extent applicable, communication, control and IT systems, architectural and engineering details for the facilities (site plans on a scale from 1:500 or more detailed), site network plans on a scale from 1:500 or more detailed, landscaping plans and height map of the area, road transport and pedestrian organization scheme, designed and detailed shell and core structure, designed and detailed fit-out, detailed technical specification for works and material, labour quantity estimates, estimated costs for all works in detail. |
| Local facilities | Geographically limited parts of Railway infrastructure with extended structural or functional elements (terminals, service facilities, roads, major crossings, and bridges etc.) which are related or needed to ensure a safe and smooth operation of the railway. Examples:   1. a passenger terminal, including passenger stations, 2. a freight terminal including railway station, 3. a rolling stock maintenance facility, 4. an infrastructure maintenance facility.   Railway station is a part of a railway containing necessary sidings and necessary equipment, which allow for performing train traffic organization (change of direction, overtaking, crossing) and commercial (passenger exchange, freight operations, etc.) operations. The border of a railway station is a station border (an entry signal or a border sign). |
| Implementing Body | Public or private undertaking or body designated by a beneficiary, where the beneficiary is a Member State or an international organisation, to implement the action concerned. Such designation shall be decided upon by the beneficiary under its own responsibility and, if it requires the award of a procurement contract, in compliance with the applicable European Union and National public procurement rules.  For the purpose of the Technical Specification the Implementing Bodies shall include sabiedrība ar ierobežotu atbildību “Eiropas dzelceļa līnijas”, AB “LTG-Infra”, “Rail Baltic Estonia” OÜ. |
| Beneficiary | A Member State, an international organisation, or a public or private undertaking or body that has been selected to receive Union financial assistance under Regulation 1316/2013. In frames of procurement of AsBo Services this shall mean the Ministry of Economic Affairs and Communication in Estonia, the Ministry of Transport in Latvia and the Ministry of Transport and Communication in Lithuania jointly. |
| DTD Technical Specification | Technical specification for Detailed Technical Design supervision services with all associated Annexes. |
| Expert or Lead-Expert | Natural person, engineering professional with appropriate experience who is providing assessment services and meets procurement regulation qualification criteria. |
| Global project | All the activities undertaken by the Rail Baltica railway implementing parties in order to plan, design, build, put in operation and commercialize the Rail Baltica railway and related Railway infrastructure in accordance with the agreed route, technical parameters, and time schedule. |
| Master Design | Master Design means a first stage of design following national construction law / building act regulations. A Master Design aims at setting a consolidated approach towards Detailed Technical Design by considering all legal requirements set out in national construction law / building act regulation and following the established Design Guidelines for the railway. The result of Master Design is a set of documents (incl. drawings in 3D model) which clearly show the scope of the project, includes a situation plan with an accurate placement of the railway, main signalling, contact line and electrical network details. The scope of this set has to be wide and precise enough so that the main details and the main requirements for precise detailing are clear.  In terms of Lithuania construction legislation, Master Design corresponds to Principal Design Documentation (”Techninis projektas“ in Lithuanian) together with all requirements specified in DTD Technical Specifications.  In terms of Latvia construction legislation, Master Design (“Būvprojekta pamatrisinājumi” in Latvian) is not applicable in Country’s construction legislation, however required by RBR as separate stage during provision of the Design Services to align Global project solutions and at the early level of Detailed technical design preparation together with all requirements specified in DTD Technical Specification.  In terms of Estonia construction legislation, Master Design corresponds to Detailed Design Documentation (”Põhiprojekt“ in Estonian) together with all requirements specified in DTD Technical Specification. |
| Preliminary design | Completed pre-design stage, including spatial planning and environmental impact assessment studies, of Rail Baltica railway prepared in accordance with Country’s construction and other relevant legislation and approved at the State level. |
| Rail Baltica railway | A new fast conventional double track electrified European standard gauge (1435 mm) railway line on the route from Tallinn through Pärnu - Riga - Panevėžys - Kaunas to Lithuanian - Polish border, with the connection of Kaunas - Vilnius. |
| Rail Baltica system | The lines, stations, terminals, and all kinds of fixed equipment needed to ensure safe and continuous operation of the Rail Baltica railway. |
| Railway infrastructure | Has the meaning in the Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area (recast), as well includes freight and passenger terminals and infrastructure and rolling stock maintenance facilities and the ground underneath them and the airspace above them to the extent that the national legislation permits the ownership of the ground and the airspace.  Railway infrastructure consists of the following items, provided they form part of the permanent way, including sidings, but excluding lines situated within railway repair workshops, depots or locomotive sheds, and private branch lines or sidings:  — Ground area,  — Track and track bed, in particular embankments, cuttings, drainage channels and trenches, masonry trenches, culverts, lining walls, planting for protecting side slopes, etc.; passenger and goods platforms, including in passenger stations and freight terminals; four-foot way and walkways; enclosure walls, hedges, fencing; fire protection strips; apparatus for heating points; crossings etc.; snow protection screens,  — Engineering structures: bridges, culverts and other overpasses, tunnels, covered cuttings and other underpasses; retaining walls, structures for protection against avalanches, falling stones, etc.,  — Level crossings, including appliances to ensure the safety of road traffic,  — Superstructure, in particular: rails, grooved rails and check rails; sleepers and longitudinal ties, small fittings for the permanent way, ballast including stone chippings and sand; points, crossings, etc.; turntables and traverses (except those reserved exclusively for locomotives),  — Access way for passengers and goods, including access by road and access for passengers arriving or departing on foot,  — Safety, signalling and telecommunications installations on the open track, in stations and in marshalling yards, including plant for generating, transforming and distributing electric current for signalling and telecommunications; buildings for such installations or plant; track brakes,  — Lighting installations for traffic and safety purposes,  — Plant for transforming and carrying electric power for train haulage: substations, supply cables between substations and contact wires, catenaries and supports; third rail with supports,  — Buildings used by the infrastructure department, including a proportion of installations for the collection of transport charges. |
| Technical Specification | This document with all its Annexes. |

|  |  |
| --- | --- |
| * + 1. Special terminology | |
| Contract | AsBo Service contract to be concluded by and between the Assessment Body, the Client and the Implementing Bodies. |
| BIM/AIM | Building Information management and asset information management. |
| Common Data Environment (CDE) | Building information management and asset information management system established by the Client.. |
| Building permit | Permit to start construction works issued by state authorities based on Country’s Construction legislation. |
| Master Program | Rail Baltica Global project time schedule. |
| Classification system | A systematic arrangement of design and Construction work aspects including assets, facility elements, functional and constructive systems, products, components, etc. |
| Common Safety Methods | The methods describing the assessment of safety levels and achievement of safety targets and compliance with other safety requirement. |
| Construction object | Part of overall Construction section falling under the scope of Contract that is defined as separate object for which an individual design package (covering all required documentation and approvals to receive a Building permit) is prepared allowing to have a separate Construction section (including Construction tendering) and taking-over process in accordance with Country’s construction legislation. |
| Design Section (DS) | Section of overall Rail Baltica railway line falling under the scope of the AsBo services. |
| Design Priority Section (DPS) | Part of Design Section identified as separate Rail Baltica railway line section for planning of the Design Services and management purposes. |
| AsBo Services | All works related to the evaluation of the suitability of a system to fulfil its safety requirements as described in these Technical specifications. |
| Assessment Body (AsBo) | Contractor of the AsBo Service Contract and an independent and competent external organisation or entity which undertakes investigation to provide a judgement, based on evidence, of the suitability of a system to fulfil its safety requirements. |
| Applicant | A natural or legal person requesting an authorisation, be it a railway undertaking, an infrastructure manager or any other person or legal entity, such as a manufacturer, an owner or a keeper; for the purpose of Article 15 of Interoperability Directive EU 2016/797, the ‘applicant’ means a contracting entity or a manufacturer, or its authorised representatives; for the purpose of Article 19, the ‘applicant’ means a natural or legal person requesting the Agency's decision for the approval of the technical solutions envisaged for the ERTMS track-side equipment projects; |
| Trackside control-command and signalling subsystem (Trackside CCS) | All the trackside equipment required to ensure safety and to command and control movements of trains authorised to travel on the network. |
| CSM RA regulation | Commission Implementing Regulation (EU) No 402/2013 of 30 April 2013 on the common safety method for risk evaluation and assessment |
| TSI | Technical specification for Interoperability defining how ‘subsystems’ meet the ‘essential requirements’ of the Interoperability Regulations |
| EC verification | Procedures carried out to fulfil requirements of the relevant EU regulations and any relevant national rules relating to subsystems placing to service. |
| Energy subsystem (ENE) | The electrification system, including overhead lines and the trackside electricity consumption measuring and charging system. |
| Infrastructure subsystem | The tracks, points, engineering structures (bridges, tunnels, etc.), rail-related elements of stations (including entrances, platforms, zones of access, service venues, toilets and information systems, as well as their accessibility features for persons with disabilities and persons with reduced mobility), safety and protective equipment. |
| Infrastructure Manager | Body or firm responsible in particular for establishing, managing and  maintaining railway infrastructure, including traffic management and control-command and signalling. The functions of the infrastructure manager on a network or part of a network may be allocated to different bodies or firms. |
| Interoperability directive | Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on the interoperability of the rail system within the European Union |
| ISA | Independent Safety Assessor as the entity in charge of performing independent safety assessment according to CENELEC 50126 definition |
| National Safety Authorities (NSA) | The national bodies in Estonia, Latvia and Lithuania entrusted with the tasks regarding railway safety in accordance with Directive (EU) 2016/798 of the European Parliament and of the Council on railway safety of 11 May 2016. |
| Work package | Assessment Body’s (AsBo) work division under the Technical Specification. |
| Safety directive | Directive (EU) 2016/798 of the European Parliament and of the Council of 11 May 2016 on railway safety |
| Subsystem | The structural or functional parts of the Union rail network, as set out in Annex II of Interoperability directive. |
| Specifications | European, internal and national technical requirements for Rail Baltica railway project implementation. |
| Union rail network | Railway network which is made up of the Trans-European high-speed rail network as well as the Trans-European conventional rail network. This rail network includes the infrastructures and the facilities which enable rail and road and, where appropriate, maritime services and air transport services to be integrated. This network includes traffic management, tracking and navigation systems, technical installations for data processing and telecommunications intended for long-distance passenger services and freight services on the network in order to guarantee the safe and harmonious operation of the network and efficient traffic management. Standards for the rail network are set by the European Railway Agency, in the form of European Railway Agency`s Technical Specifications for Interoperability. |
| APiS | Authorisation for placing into service. |
| Conformity assessment body | Body responsible for conformity assessment activities, including calibration, testing, certification and inspection. |
| Designated Body (DeBo) | Conformity assessment body is classified as a ‘designated body’ following designation by a Member State; Assessment authority for National Rules. Certifies National conformity (Everything beyond TSI). |
| Notified Body (NoBo) | Conformity assessment body is classified as a ‘notified body’ following notification by a Member State. Notified bodies responsible for examining the procedures for assessment of conformity and suitability for use of interoperability constituents, together with the procedure for the assessment of subsystems, should, in particular in the absence of any European specification, coordinate their decisions as closely as possible. European wide authority for assessment. Certifies EU conformity in accordance with TSI. |
| FIDIC | International Federation of Consulting Engineers (commonly known as FIDIC, acronym for its French name Fédération Internationale Des Ingénieurs-Conseils) is an international standards organization for Consulting Engineering and Construction best known for FIDIC family of contract templates. |
| Ecoduct | Ecoducts (or wildlife crossings) are structures that allow animals to cross human-made barriers safely. Wildlife crossings may include underpass tunnels or wildlife tunnels, viaducts, and overpasses or green bridges (mainly for large or herd-type animals). |
| Construction section | Construction projects are typically broken down into sections which convenient to group as one activity. This may be for the purposes of phasing or to realise time or cost savings. The activities within one section may be linked in terms of construction method, geographical location, used materials or sequence. |
| Operating section | Part of constructed railway line (including all relevant Railway infrastructure elements and facilities) ready for acceptance and operation. |

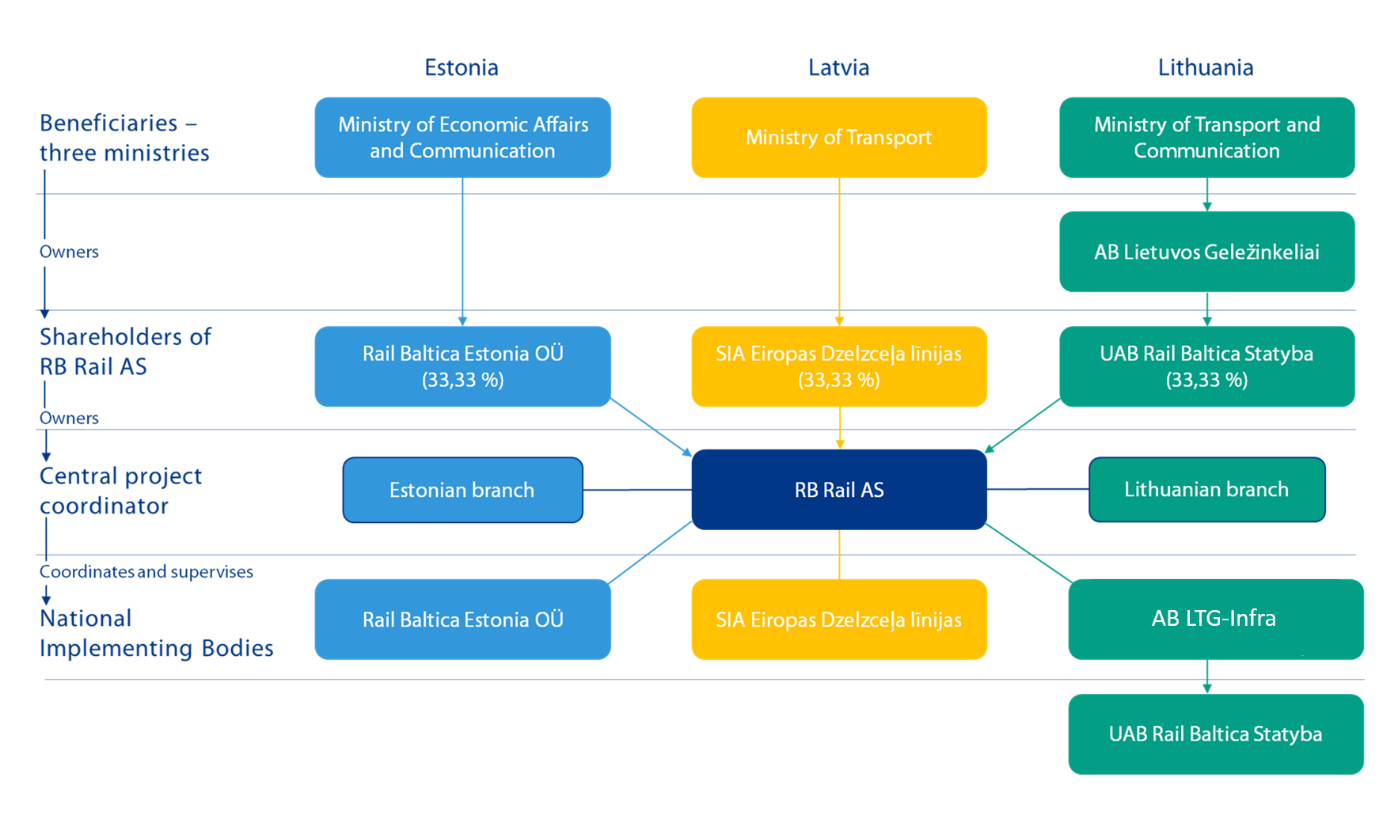
# **Introduction to Rail Baltica**

Rail Baltica is a joint project of three EU Member States – Estonia, Latvia and Lithuania – and concerns the building of a fast conventional double-track 1435 mm gauge electrified and ERTMS equipped railway line with overall length of 890 km on the route from Tallinn through Pärnu (EE), Riga (LV), Panevėžys (LT), Kaunas (LT) to the Lithuania/Poland state border (including a Kaunas – Vilnius spur) with a design speed of 249 km/h.

Railway line for both passenger and freight transport shall be interoperable with the TEN-T Network in the rest of Europe and competitive in terms of quality with other modes of transport in the region.

Rail Baltica is to become a part of the EU TEN-T North Sea – Baltic Core Network Corridor, which links Europe’s largest ports of Rotterdam, Hamburg and Antwerp – through the Netherlands, Belgium, Germany and Poland – with the three Baltic States, further connecting to Finland via the Gulf of Finland short sea shipping connections with a future fixed link possibility between Tallinn and Helsinki. Further northbound extension of this corridor shall pave the way for future connectivity also with the emerging Arctic corridor, especially in light of the lucrative prospects of the alternative Northern Circle maritime route development between Europe and Asia. Furthermore, the North Sea – Baltic Corridor crosses with the Baltic-Adriatic Corridor in Warsaw, paving the way for new supply chain development between the Baltic and Adriatic seas, connecting the Baltics with the hitherto inadequately accessible Southern European markets.

The Contracting authority RB Rail AS (RBR) was established by the Republics of Estonia, Latvia and Lithuania, via state-owned holding companies, to coordinate the Rail Baltica project. The diagram below illustrates current shareholders and structure of the Rail Baltica project in Estonia, Latvia and Lithuania.

Figure 1

# **Context of AsBo services on Rail Baltica**

**The Client will ensure deployment of Global Project under the unique policy with respect to the interoperability and safety requirements. The constituents, sub-systems, and integrated systems will be procured, designed and implemented through unitary projects where delivery's compliance will be proven against European Union directives and regulations, as well as applicable local requirements in Estonia, Latvia and Lithuania.**

**To secure a consistent and efficient delivery of AsBo Services required under CSM RA regulation, the Client has resolved to appoint a single Assessment Body, with the eventual purpose for the Client to deliver the required safety evidence as a part of the request(s) for authorisation to place in service Rail Baltica system, or of sections of it by the Rail Baltica Program.**

**This Technical Specification provides technical requirements for the provision of the AsBo Services.**

# **Scope of services**

* 1. AsBo assignment in principal is to undertake all necessary investigations to provide Rail Baltica with a judgement, based on evidence, of the suitability of Rail Baltica system to fulfil its safety requirements.
  2. AsBo Services shall be carried out in compliance with applicable European Union legislation, national legislation and related guidance documentation as published by the National Safety Authorities in Estonia, Latvia and Lithuania.
  3. The scope of AsBo Services Contract shall apply to the entire Global Project including:
     1. railway lines,
     2. stations,
     3. local facilities,
     4. railway bridges, road bridges, tunnels, ecoducts,
     5. 1520 mm networks’ relocation and newly built 1520 mm lines in the frame of Rail Baltica project,
     6. other Construction Objects as defined in this Technical Specification.
  4. An additional scope of AsBo services is defined for the assessment of the temporary facilities as:
     1. railway related elements and operation of construction works facilities implemented for the storage and the transportation of goods and machinery to the construction site;
     2. test train, test environment and operation procedures established for the purpose of performing dynamic integration testing of the Rail Baltica railway system;
  5. The scope of this AsBo Services shall apply for the sub-systems described below
     1. Structural subsystems
        1. Infrastructure subsystem;
        2. Energy subsystem;
        3. rolling stock subsystem (limited to test train scope as defined in 4.4.2)
  6. The scope of AsBo services shall also apply for the assessment of the safe integration of the overall Rail Baltica system, as:
     1. safe integration of parts within Infrastructure subsystem and Energy subsystem;
     2. safe integration of the railway system build-up from Infrastructure, Energy and trackside CCS subsystems;
     3. Safe integration of the railway system within its operational and maintenance context.[[1]](#footnote-2)
  7. The assessment of the safe integration of the Rail Baltica system within the organization and the safety management system as developed by the Rail Baltica Infrastructure Manager(s) shall not be in the scope of the Rail Baltica AsBo services.
  8. The following individual structural sub-systems shall be excluded from the Scope of AsBo Services:
     1. trackside control-command and signalling [[2]](#footnote-3);
     2. on-board control-command and signalling;
  9. Structural and functional sub-systems are defined in Annex II of the Interoperability directive.
  10. A description of the Rail Baltica railway with technical indication on Works Breakdown Structure against which AsBo services shall apply are provided in Annexes 2, 3 and 4.

# **Rail Baltica AsBo task elaboration**

* 1. Risk management process shall be understood as the process set in Annex I of CSM-RA regulation.
  2. The Client shall act as the final proposer. Request for APiS from NSA(s) will be established in collaboration with respective Infrastructure Manager. The applicable procedure shall be discussed and agreed with NSA(s) and Infrastructure Manager(s) during the course of the project. In compliance with Article 16 of CSM RA regulation, a written declaration will be produced, based on application of CSM-RA and on the final safety assessment report provided by the AsBo, that all identified hazards and associated risks are controlled to an acceptable level.
  3. The Client and the Implementing Bodies ensure that consultant and contractors involved in the delivery of projects are tasked with the duties of risk management process as set out in Annex I of CSM-RA regulation for their assigned scope of works.
  4. The approach for demonstrating compliance with the safety requirements as well as the demonstration itself might vary depending on stakeholders’ choices. Both the chosen approach and the demonstration itself shall be independently assessed by the AsBo [[3]](#footnote-4).
  5. AsBo shall deliver assessment services along the complete development or Rail Baltica system.
  6. AsBo shall review any documentation and processes delivered by projects constitutive of Global Project and perform any audit, inspections in accordance with CSM RA regulation requirements, or under recognized code of practice as CENELEC EN 50126, EN 50562, including:
     1. understanding of system under consideration;
     2. development of an assessment plan;
     3. evaluation of conformity of processes and their outcomes;
     4. evaluation of organizations and personal competences;
     5. evaluation of the verification and validation activities and their results;
     6. evaluation of the quality management systems;
     7. evaluation of suitability of configuration and change management system;
     8. evaluation of system definitions, risk assessment reports, safety cases, and overall suitability of the risk management system;
     9. performing audits and inspections at various phases of development;
     10. providing a judgement on the suitability of the risk management and outcomes;
     11. developing traceable assessment records and reporting.
  7. AsBo shall also undertake assessment activities in the frame of the safety demonstration of electrical, electronic or programmable electronic safety related systems implemented as a part of Energy subsystem in accordance with code of practice EN50126, EN 50562, or EN 61508 (ISA mission).
  8. AsBo shall collaborate with the Client in establishing communication with Global Project stakeholders in the view of providing adapted services along the deployment of the Global Project, allowing timely delivery of assessment reports according the Master Program[[4]](#footnote-5).
  9. AsBo shall assist the Client in the preparation of technical specifications for procurement of design services, materials, and construction contracts, coordinating the requirements related to the delivery of risk assessment and risk management activities.
  10. At the current stage of the Global Project, consultants and contractors are not all identified. An overview Information on stakeholders involved in the delivery of the Global Project is provided in chapter 19.
  11. AsBo shall assist the Client in establishing the Rail Baltica Program approval strategy which will define what, when and how CSM activities and their assessment should be developed in order to secure timely approval by the National Safety Authorities in accordance with:
      1. applicable laws of the European Union and national laws of the Estonia, Latvia and Lithuania;
      2. the national laws of the Estonia, Latvia and Lithuania related to building permit delivery and to railway safety
      3. the national guidance published by NSA`s on how to obtain authorisations for putting into service;
      4. the Global Project CSM-RA documentation;
      5. the Master Program.
  12. AsBo shall liaise and coordinate risk assessment activities with other assessment bodies involved in Global Project as interoperability assessment body (by NoBo), national rules assessment body (by DeBo) and AsBo/ISA appointed separately for evaluation of CCS subsystems. Coordination between assessment bodies shall allow parties to eliminate respective involvement avoiding gaps or overlapping of activities.
  13. AsBo shall coordinate its works with respective Implementing Bodies, infrastructure managers, designers, Design Expertise service providers, Design Reviewers, contractors, construction super-visors, FIDIC engineers. All related assessment documentation and Inception Report developed by AsBo shall be available for and may be shared with all above-mentioned service providers when necessary. Coordination activities shall remain under Clients’ control.
  14. AsBo shall consider that AB “LTG Infra“, SIA “Eiropas Dzelzceļa līnijas”, OU "Rail Baltic Estonia“ were tasked with the duty of establishing the infrastructure manager(s) of Rail Baltica railway infrastructure. Final agreement on the structure and according responsibilities will be defined during the project. AsBo Services under the Contract shall be available till the completion of Global Project deployment program.

# **Assessment activities**

* 1. For each individual project, AsBo assessment shall be planned at design stage and at construction/integration stage.

Design stage

* 1. AsBo Assessment at design stage shall be planned following delivery of relevant documentation by projects, respectively:
     1. for Rail Baltica System, consisting in evaluating the risk management and risk assessment initiated by the Client at System level;
     2. for Infrastructure subsystems, at Design Priority Sections[[5]](#footnote-6), followed by subsystem integration at Design Section level;
     3. for Energy subsystem, at generic design stage for the global ENE project, and at Application design stage for Design Sections ;
     4. for local facilities;
     5. for parts of the project related to 1520 mm railway lines;
     6. for construction works facilities.
  2. At design stage, AsBo activities on individual Rail Baltica projects shall be as follows:
     1. accepting the scope and conditions of assessment as described in assignment order;
     2. providing specific information for the AsBo Services related to assessment plan and audit plans;
     3. performing the assessment for the proposed object;
     4. delivering initial Design Safety Assessment Reports within twenty (20) working days following signing of respective assignment order, or other term agreed under the assignment order, if any;
     5. reviewing and discussing outcomes of initial assessments with relevant stakeholders;
     6. Delivering the [Subsystem] Design Safety Assessment Reports within twenty (20) working days after receiving final justifications and risk assessment updates from the Project , or other term agreed under the assignment order, if any , respectively for each design stage as defined in clause 6.3;
  3. Design stage assessment may consist in 2 steps, including:
     1. an advance assessment activity delivered at an intermediate version of design (Master Design or other proposed intermediate design)
     2. the final design assessment activity at final Technical Design stage until release of the “[Subsystem] Design Safety Assessment ”.
  4. The Client may deliver to the approval authority the “Advance Design Safety Assessment Report” as part of the design conditions required under Building Permit approval process.
  5. The [Subsystem] Design Safety Assessment Report will be delivered to the NSA.

Construction/integration stage

* 1. AsBo Assessment at construction and integration stage shall be planned following delivery of the systems by projects, respectively:
     1. for construction sections[[6]](#footnote-7) [[7]](#footnote-8) , for Infrastructure and Energy subsystems;
     2. for local facilities;
     3. for construction works facilities;
     4. for parts of the project related to 1520 mm railway lines;
     5. for test train set-up on a section of line defined as the “Test Section”.
  2. At construction and integration stage, AsBo activities shall apply as follow:
     1. accepting the scope and conditions of assessment as described in assignment order;
     2. providing specific information for the AsBo Services related to assessment plan and audit plans
     3. performing the assessment of the proposed system;
     4. delivering initial Safety Assessment Report within twenty (20) working days following signing of respective assignment order, or other term agreed under the assignment order, if any;
     5. reviewing and discussing outcomes of initial assessments with relevant stakeholders,
     6. delivering the Subsystem Safety Assessment Report for the respective object within twenty (20) working days after receiving final justifications and risk assessment updates from the Project, or other term agreed under the assignment order, if any.

Safe integration stage

* 1. Assessment of the safe integration of the Rail Baltica railway system shall be planned according to the operating sections [[8]](#footnote-9).
  2. At the end of the system integration stage across a single construction section, or multiple construction sections, AsBo shall undertake assessment of the safe integration of the Rail Baltica railway system for the operating section. Safe integration assessment shall result in the delivery of the System Safety Assessment Report for the operating section.
  3. As part of the assessment of the safe integration of Rail Baltica railway system, AsBo shall evaluate the overall consistency of the risk management and the safe integration of the Rail Baltica railway system, including:
     1. evaluation of the methods and resources deployed by various stakeholders to support system safety;
     2. evaluation of the relevance and completeness of system risk assessment;
     3. review and endorsement of assessment delivered by other AsBo for subsystems;
     4. compilation of the assessment results (NoBo, DeBo) from all subsystems constitutive of Rail Baltica railway system and neighbouring 1520 mm railway systems;
     5. evaluation of the achieved level of safety for the Rail Baltica railway system within its operational and maintenance context.[[9]](#footnote-10)
  4. At safe integration stage, AsBo activities shall apply as follow:
     1. accepting the scope and conditions of assessment as described in assignment order;
     2. providing specific information for the AsBo Services related to assessment plan and audit plans;
     3. performing the assessment for the proposed scope of operating section;
     4. delivering initial Safety Assessment Report within twenty (20) working days following signing of respective assignment order, or other term agreed under the assignment order, if any;
     5. reviewing and discussing outcomes of initial assessments with relevant stakeholders,
     6. delivering the Subsystem Safety Assessment Report for the respective object within twenty (20) working days after receiving final justifications and risk assessment updates from the Project, or other term agreed under the assignment order, if any.

# **Information on Global Project design**

* 1. The Infrastructure subsystem design is developed according to the following stages of development:
     1. Master Design (MD) stage;
     2. Detailed Technical Design (DTD) stage;
  2. The meaning of the term “Master Design” is different in each of three countries:
     1. In terms of Lithuania construction legislation, Master Design corresponds to Principal Design Documentation (”Techninis projektas“ in Lithuanian) together with all requirements specified in DTD technical specifications.
     2. in terms of Latvia construction legislation, Master Design (“Būvprojekta pamatrisinājumi” in Latvian) is not applicable in Country’s construction legislation, however required by RBR as separate stage during provision of the Design Services to align Global project solutions and at the early level of Detailed technical design preparation together with all requirements specified in DTD Technical Specifications.
     3. in terms of Estonia construction legislation, Master Design corresponds to Detailed Design Documentation (”Põhiprojekt“ in Estonian) together with all requirements specified in DTD Technical Specification.
  3. Regarding the Infrastructure subsystem, Master Design and Detailed Technical design will be developed for each DTD section as defined in Annexes 2 and 4.
  4. Regarding the Energy subsystem, it is anticipated that the design will be split as follows:
     1. generic design which will consist in generic solutions where components will be specified, and generic specifications will be developed;
     2. Detailed Technical Design which will consist in Application design where generic solutions will be deployed for all DTD sections.

# **AsBo competences**

* 1. AsBo shall fulfil competences for AsBo accreditation and recognition requirements as defined in Annex II of Regulation 402/2013.
  2. AsBo shall be accredited for the following areas of competence:
     1. infrastructure;
     2. energy;
     3. control-command and signalling;
     4. rolling stock;
     5. traffic operation and management;
     6. maintenance;
     7. system safe integration.
  3. AsBo shall provide evidences of compliance to clauses 8.1 and 8.2 and maintain those throughout the term of the Contract.

# **Inception Report**

* 1. The Inception Report shall provide full understanding of the AsBo activities providing a detailed definition of the AsBo intended involvement along the contract execution.
  2. The Inception Report shall include:
     1. overview of the assessment organization (organization chart, roles and processes);
     2. overview of the assessment communication plan in Estonia, Latvia and Lithuania to include all the stakeholders of the Global Project;
     3. an understanding of existing procedures for authorisations’ application in Estonia, Latvia and Lithuania and intended approach for AsBo to comply with such.
     4. a description of the quality management procedures to be applied by AsBo for risk assessment Services;
     5. framework to involve providers of subsystems (e.g. designers, construction companies, parts suppliers) into the assessment process;
     6. AsBo independent assessment plan as described in Chapter 10 of this Technical Specification;
     7. AsBo assessment program as described in chapter 11 of this technical specification;
     8. AsBo management plan as described in chapter 12 of this Technical Specification ;
     9. any other information relevant for the performance under the Contract.
  3. AsBo shall elaborate the Inception Report within sixty (60) working days from the effective date of the Contract and submit it to the Client for review.

# **AsBo independent assessment plan**

* 1. During inception phase and as a part of the Inception Report, AsBo shall deliver the AsBo independent assessment plan describing the general conditions, general scope of assessment and limitations, the assessment strategy, methodology, constraints towards stakeholders, time frameworks for submissions, assessment team organisation and deliverables adapted to the Global Project context.
  2. The AsBo independent assessment plan shall include an audit plan establishing the steps where audits will be applied and describing objectives, method, generic list of participants, generic list of audit team members and typical agenda for audit meetings. Audit plan shall be applicable to all audits foreseen along Rail Baltica system deployment, i.e. design, construction, testing and integration phases.
  3. The Global Project context for the development of the AsBo independent assessment plan is defined by the Master Program, the Clients approval strategy, the Clients contracting schemes, systems definitions, safety plans and any documents made available by the Client for the task.
  4. AsBo shall update the independent assessment plan upon modification of the Global Project con-text.
  5. The AsBo independent assessment plan shall be developed in accordance with working packages stated in Annexes 2 and 4 of this Technical specification. Work Breakdown Structure includes intended objects (including Design Sections, design priority sections, local railway facilities such as freight or passenger terminals, railway stations, rolling stock or infrastructure maintenance facilities, regional stops) of AsBo risk assessment.
  6. AsBo assessment plan shall include the following parts:
     1. detailed scope of assessment activities and limitations;
     2. definition of EU Directives and Regulations, applicable national laws of Estonia, Latvia and Lithuania and applicable standards framework supporting risk assessment activities;
     3. parties involved in assessment activities;
     4. communications between assessment stakeholders;
     5. generic time framework for assessment;
     6. constraints on assessment Program;
     7. AsBo organisation for the global AsBo services;
     8. procedures and methods;
     9. audit plan according to clause 10.2;
     10. deliverables including detailed information about which risk assessment reports shall be produced at respective development stages of the projects under AsBo scope;
     11. description of the typical content of deliverables (Risk assessment reports; Final report) which will be issued along development phases until APiS submission;
     12. plan to integrate assessment results issued by external AsBo already contracted in the frame of some design / construction services of Rail Baltica railway.
  7. The AsBo independent assessment plan shall be submitted for Clients approval along with the Inception Report. Client will coordinate approval of AsBo independent assessment plan with IB(s)/Infrastructure Manager(s).

# **Rail Baltica AsBo assessment program**

* 1. During inception phase and as a part of the Inception Report, AsBo shall deliver the AsBo assessment program establishing the timely implementation of AsBo services according to Master program.
  2. The AsBo assessment program shall include a schedule of assessment activities planned against individual projects.
  3. The AsBo assessment program shall identify milestones impacting AsBo services deliveries.
  4. AsBo shall update the AsBo assessment program upon modification of the Master program.
  5. The AsBo assessment program shall include planning of AsBo resources according to the intended program implementation.
  6. The Client and AsBo shall have regular coordination meetings to discuss status and planning of the assessment works.
  7. Planning and scheduling related to long-term assessment shall be supported with project planning software, compatible with the one in use by the Client.
  8. The AsBo assessment program shall be submitted for Client approval along with the Inception Report. Client will coordinate approval of AsBo assessment program with IB(s)/Infrastructure Manager(s).

# **Rail Baltica AsBo management plan**

* 1. AsBo shall ensure proper management processes according to requirements set in this chapter.
  2. AsBo shall elaborate and update assessment management plan in line with changes of the Master Program.
  3. AsBo assessment management shall be in line with principles set out in PMI (Project Management Institute) methodology or similar standards.
  4. AsBo management plan shall be agreed with the Client and used as a communication tool for any further coordination of AsBo Services.
  5. AsBo management plan shall include following parts:
     1. AsBo quality management plan;
     2. documentation management plan;
     3. resource management plan;
     4. stakeholder management plan;
     5. communication plan;
     6. risk management plan;
     7. change management plan.
  6. AsBo management plan will be part of the Inception Report and considered as completed after approval of the Inception Report the by Client.
  7. **AsBo quality management plan**
     1. The aim of this plan is to ensure that AsBo assessment works are controlled during the entire Global Project implementation.
     2. The quality management plan shall include at least the following:
        1. staff organization, resources and means;
        2. management system and responsibility;
        3. control organization and procedures;
        4. control of AsBo deliverables;
        5. quality audits.
  8. **Documentation management plan**
     1. AsBo shall agree with the Client on the approach to use the Common Data Environment (CDE) for project documentation using Bentley ProjectWise Connect Edition.
     2. All the data about the deliveries must be stored in a Common Data Environment (CDE). The Client is the owner of this platform – Bentley ProjectWise Connect Edition.
     3. Submissions made by AsBo shall be in agreed electronic format. All activity submissions made by the AsBo shall be clearly titled (e.g. Baseline Program, Monthly Program, What-if Program), numbered (e.g. Period 00, 01, 02, …), revision coded (e.g. Rev 00, 01, 02, …) and dated (DDMMYYYY).
     4. All the data is stored within a data source and access to this data shall be granted as required and requested by the Client. A separate process must be established how the access rights are granted to the AsBo.
     5. It is required that all of the technical documentation about the project during the Design, Construction stage and taking over stage must be stored in the repository and all of the up-to-date information is stored in this data repository. The information uploaded to the Common Data Environment (CDE) shall be done using the system/prepared tools/forms. All the data required by the national legislation must be included, organized and must be digitally signed by the responsible Party.
     6. In order to access the information, the AsBo shall allocate financial and human resources. The financial resources in order to access the platform, must include personal user license for each user accessing the system. The number of users which AsBo shall allocate is not defined, however it shall ensure that the information flow is realized in a timely manner and the information is updated on regular basis as stipulated in the Contract and its annexes. The exact list of all named users using and accessing the platform shall be agreed with the Client directly.
  9. **Resource management plan**
     1. AsBo shall ensure enough resources with necessary facilities and equipment for the provision of the AsBo Services.
     2. Resource management plan elaborated by AsBo shall include the organization breakdown structure (OBS) together with statements of duties and responsibilities of each assessment role, which shall demonstrate how the AsBo will comply with its responsibilities under the Contract and how the OBS is interrelated to the work breakdown structure of the assessment. Upon AsBo’s personnel or structure changes, the OBS shall be updated and reissued to the Client within one week.
     3. Human resource management plan shall include:
        1. Roles and Responsibilities;
        2. Project Organization Charts;
        3. Mobilization plan for Preparatory phase;
        4. Mobilization plan for Works implementation phase;
        5. Staffing Management Plan (incl. workload);
        6. Plan for staff acquisition;
        7. Resource calendars;
        8. Staff release plan;
        9. Staff training needs.
  10. **Stakeholder management plan**
      1. AsBo shall develop stakeholder management plan and agree it with the Client;
      2. AsBo shall identify and document stakeholders including all involved contractors, RBR, IBs, BENs, NSAs and any other parties;
      3. AsBo shall assess interest and influence of each stakeholder;
      4. AsBo shall develop stakeholder management plan.
  11. **Communication plan**
      1. AsBo shall develop communication management strategy and agree it with the Client;
      2. AsBo shall develop communication management plan, which shall include:
         1. communication frequency;
         2. description/Purpose of communication;
         3. all parties involved;
         4. communication vehicle.
  12. **Risk management plan**
      1. Risk management plan shall be developed by involving the Client’s project manager and include following activities:
         1. identifying the risks related to AsBo Services;
         2. analysing the risks related to AsBo Services;
         3. evaluate or rank the risks related to AsBo Services;
         4. monitor and review the risks related to AsBo Services.
      2. AsBo shall consider risks related to AsBo Services according to procurement regulations requirements and submitted proposal.
  13. **Change management plan**
      1. AsBo shall document proposed scope/timeline/cost change of the project. Change management plan shall contain:
         1. detailed description of the proposed change and reasons for it;
         2. detailed description of how the proposed change or variation is to be affected, including activities and anticipated durations for any resulting design changes to be undertaken by the Client, additional or revised contents, amended key dates or relevant information;
         3. a proposed revised Assessment Program for the remaining work with a forecast of savings in actual cost and forecast of any additional costs induced to other parties and/or to the AsBo.

# **Description of work procedures and meetings**

* 1. In sixty (60) working days after effective date of AsBo Services Contract AsBo shall prepare and deliver to the Client the Inception Report.
  2. Official/formal communication channels are described in Chapter 12. Regarding technical information flow (designs, risk assessments, etc.), process of communication can be clarified when AsBo assessment Program/project management plan (also established data exchange environment, Quality assessment processes in RBR) will be delivered as a part of Inception report.
  3. Questions, observations, reports and responses shall be processed in writing.  A form for such documentation shall be agreed in AsBo assessment management plan. The template for the minutes of the meetings (MoM) shall be agreed between AsBo and Client during elaboration of inception report. MoM shall be elaborated by AsBo during the meeting and agreed by the end of it.
  4. Examination for each provided documentation shall not jeopardize time schedule of the related design or construction contracts and shall not be carried out for more than twenty (20) working days. AsBo is obliged to submit deliverable reports to the Client after the work completion but not later than twenty (20) working days after receiving the assessment documentation and or relevant justifications. Deadline for examination of the assessment documentation could be extended when the reason is justified by AsBo and aligned with Client.
  5. As part of assessment process AsBo shall undertake all steps, such as, make enquiries, review documents, review of early stage design/preliminary designs and construction documentation and BIM information, participate in meetings, etc., for the purpose of timely identification and notification to the Client of any issues which, in AsBo‘s view, may hinder or delay delivery of the services.
  6. All documentation and communications between AsBo and Client shall be in English language.
  7. Each risk assessment report intended for submission to NSA (or other national supervisory authority) or provided to Implementing Body shall be translated by AsBo into the national language of the respective country.
  8. AsBo shall participate in meetings according to the AsBo management plan as well as ad hoc meetings which shall be organised as needed upon the Client`s request. The first meetings are proposed below in Table 1.

Table 1: Proposed meetings

| **Title** | **Responsible party organizing the meeting** | **Scheduling** | **AsBo participants** |
| --- | --- | --- | --- |
| Kick-off meeting | Client | 1 week after effective date of the Contract (Presence meeting at Client’s premises if situation of Covid-19 Pandemics will allow) | Project Leader and all Lead Assessors |
| Inception meeting | Client | 70 working days after effective date of the Contract (Presence meeting at Client’s premises if situation of Covid-19 Pandemics will allow) | Project Leader and all Lead Assessors |
| Kick-off meeting for each work package | Client | 1 week after effective date of the work package  (can be online meeting, if mutually agreed) | Project Leader and Lead Assessor for the relevant subsystem |
| Progress / coordination meeting | Client | According to the assessment management plan, at least every 8 weeks (Can be online or in presence meeting, decided by the Client) | Project Leader and Lead Assessor for the relevant subsystem |
| Weekly progress meeting | Client | Online weekly meeting to discuss important and urgent issues. | Project leaders and relevant Lead Assessors |
| Coordination meeting with NSAs | Client | According to the assessment management plan, at least every 3 months (Presence meeting at Client’s premises if situation of Covid-19 Pandemics will allow) | Project Leader |

* 1. PM Reports
     1. Based on data received from Client’s Planning Department, AsBo shall once every three (3) months submit to the Client working plan covering activities scheduled for the next six (6) months including current week and resources required. The six (6) months look ahead must be consistent with the AsBo assessment program.
     2. For each progress meeting AsBo shall prepare and present for review following adapted project parameters reflecting status of the AsBo services:
        1. time plan/schedule update;
        2. costs/payment plan;
        3. resources plan;
        4. AsBo independent assessment plan and AsBo assessment program updates;
        5. quality management plan update;
        6. AsBo Services Risk management plan update.

# **Technical description of design and construction scope of Railway infrastructure and energy subsystems**

* 1. Railway infrastructure design scope covers civil and track works and Energy subsystem of Rail Baltica railway including:
* earthworks (including non-usable material storage places), embankment, cutting, subgrade, blanket layer (sub-ballast);
* railway superstructure, i.e. railway tracks covering turnouts, ballast, rails, concrete sleepers/beamers with the fastenings (slab track structures);
* station tracks, platforms, depot and multimodal access track connections (if required), passing loops and crossovers;
* drainages, ditches, culverts;
* bridges, tunnels (e.g. railway, road, pedestrian, animal etc.), road viaducts, railway viaducts, retaining walls access roads for Railway infrastructure objects, maintenance roads, eco-ducts (animal crossovers), segregated grade pedestrian crossings, cable channels,;
* all structures for PRM, fences with access gates, noise barriers, separation walls and structures for different infrastructures;
* landscaping for the railway right of way, designed structures and objects of the Affected parties, designed roads and road bridges etc.;
* railway station infrastructure (supply utilities, power supply, lighting, communication, drainage, water supply, car parking place etc.) at the Conceptual design level for international stations and regional stations, stops (at the Conceptual design level);
* demolishing buildings and other structure (including utilities);
* temporary buildings, structures, access roads and bypasses foreseen for the implementation of the design solutions;
* deforestation of land plots and trees for the affected infrastructure and for the right of way including necessary safety zone adjacent to the right of way;
* design for construction site cleaning before and after construction works;
* fire protection strips according to country specific requirements;
* embankment settlement and frost heave monitoring systems in locations of particular interest;
* bridge/overpass/viaduct/tunnel monitoring systems;
* reallocation of buildings, structures and objects;
* design for a land melioration where needed;
* procedures and related equipment permitting coherent operation of the infrastructure and energy subsystems, during both normal and degraded operation, including in particular train composition and train driving, traffic planning and management;
* electrification system, including overhead lines, the trackside substations, auto-transformers, switching stations, traction return system;
* logistics centres for maintenance work and reserves providing the mandatory corrective and preventive maintenance to ensure the interoperability of the rail system and guarantee the performance required;
* necessary input data and necessary assessments (existing conditions, future impact during construction and operational phase) of the existing neighbouring, adjacent and interfaced objects/structures (roads, railways, bridges, buildings, etc.).
  1. Design Sections of the Global project are delivered in 11 sections, consisting of
     1. 3 sections in Estonia;
     2. 4 sections in Latvia;
     3. 4 sections in Lithuania~~.~~
  2. Detailed Technical Design activities of local facilities, e.g. large passenger stations, freight terminals and depots are implemented under separate dedicated contracts where implementation is under the responsibility of Implementing Bodies. In some cases, these design activities are part of Design and Build contracts. Timeline and scope of these contracts differ in each specific case.
  3. Characteristics of Design Sections and expected constituents and components of the Railway infrastructure under specific DTDs and local facilities are based on Rail Baltica Preliminary Design and Operational Plan track layout and other studies. Characteristics are summarised in the Annexes 2 and 3 of this Technical Specification.
  4. Track layout of the Rail Baltica railway based on Operational Plan is provided inAnnex 3 of this Technical specification**.**
  5. Characteristics provided in Annexes 2 and Annex 3 of this Technical Specification are indicative and reflect the current design status of the project. With design progress, the number of constituents and components may change according to technical solutions proposed by designers. The AsBo shall consider this possible change in its technical and financial proposals and shall remain fully responsible for assessment of all Rail Baltica railway in order to ensure the overall performance of the AsBo Services.
  6. Rail Baltica Works Breakdown Structure is outlined in figure 2. Please also see Annexes 2-4 for detailed information.

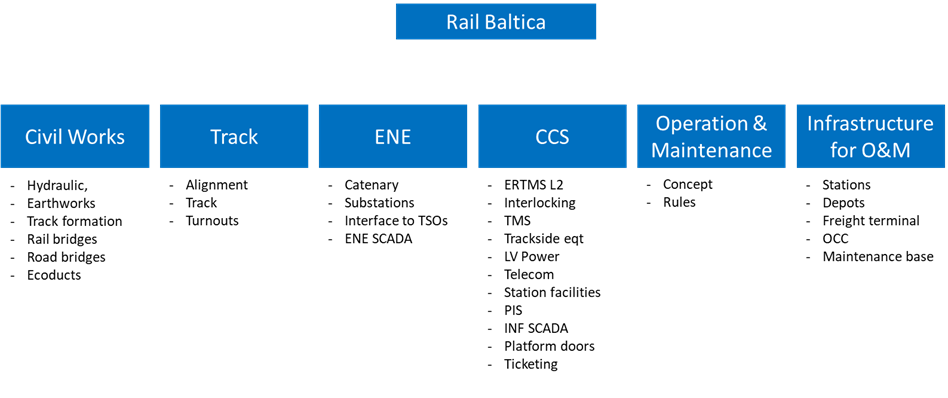


Figure 2

* 1. Stakeholders outline model for Project implementation is presented in Figure 3. Please refer to Chapter 15 and Annexes 2-4 for detailed information.

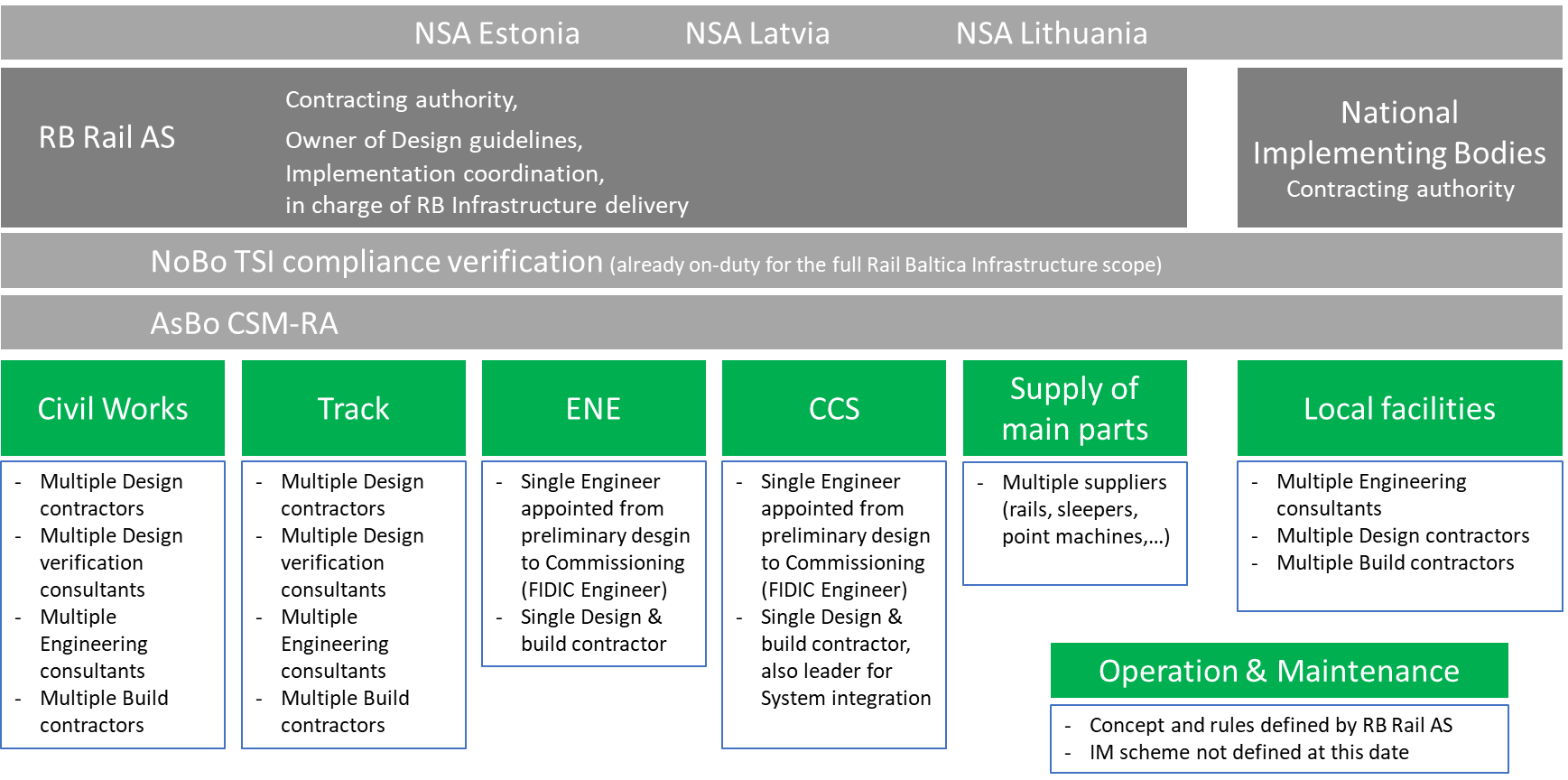


Figure 3

1. **AsBo Services assumptions**
   1. The following information shall be considered for the preparation of the technical and price proposals as part of procurement stage. This information may be amended on the course of the Global Project development and cannot be opposed as conditions for contract execution.
   2. AsBo shall consider that main part of design stage of Global Project for main lines is set to be completed during 2021-2023. Possible schedule regarding other objects and phases will be provided to AsBo by the Client during execution of safety assessment services.
   3. For full ENE subsystem deployment during concept, design, construction and testing, including project management, the Client will contract Engineering services according to FIDIC conditions.
   4. For full CCS subsystem deployment during concept, design, construction and testing, including project management, the Client will contract Engineering services according to FIDIC conditions.
   5. Regarding the potential amount of contractors the Client plans to have:
      1. one single D&B contract for full ENE subsystem deployment;
      2. one single D&B contract for full ERTMS solution (ETCS and GSM-R, incl. GSM-R core network);
      3. one single contract for INF subsystem design per Design Section;
      4. one single D&B contract for INF subsystem per Local Facility;
      5. several contracts for INF subsystem construction per each Design Section;
      6. several contractors for construction of specific engineering structures as parts of INF subsystem could be delegated to different contractors.

Table 2: General Consultants and subcontractors

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Design Section** | | **General**  **Consultants** | **Subcontractors** | **Design** | **Construction** |
| Estonia | | | | | |
| DS1 | Rapla – Pärnu | IDOM | Skepast & Puhkim /  Kelprojektas | x | TBD |
| DS2 | Tallinn – Rapla | IDOM | Skepast & Puhkim | x | TBD |
| DS3 | Pärnu – EE/LV border | Obermeyer / Prointec |  | x | TBD |
| Latvia | | | | | |
| DS1 | Mainline through Riga | IDOM / Ineco |  | x | TBD |
| DS2 | Vangaži – Salaspils – Misa | Egis / DB Engineering & Consulting / Olimps |  | x | TBD |
| DS3 | EE/LV border – Vangaži | Ineco / Ardanuy |  | x | TBD |
| DS4 | DPS2 Misa – LV/LT Border | IDOM |  | x | TBD |
| Lithuania | | | | | |
| DS1 | Ramygala – Kaunas | IDOM | Kelprojektas | x | TBD |
| DS2 | LV/LT border – Ramygala | IDOM |  | x | TBD |
| DS3 | Kaunas – LT/PL Border |  |  | TBD | TBD |
| DS4 | Kaunas – Vilnius |  |  | TBD | TBD |
|  |  |  |  |  |  |
| **Local Facility** | | **General**  **Consultants** | **Subcontractors** | **Design** | **Construction** |
| Estonia | | | | | |
|  | Tallinn Ülemiste passenger station incl. terminal building and car loading facility |  |  | TBD | TBD |
|  | Pärnu passenger terminal building |  |  | TBD | TBD |
|  | Muuga freight terminal including freight rolling stock maintenance depot |  |  | TBD | TBD |
|  | Ülemiste rolling stock maintenance depot |  |  | TBD | TBD |
|  | Tallinn infrastructure maintenance facility |  |  | TBD | TBD |
|  | Pärnu infrastructure maintenance facility |  |  | TBD | TBD |
|  | Pärnu freight terminal |  |  | TBD | TBD |
|  | Soodevahe dry port |  |  | TBD | TBD |
|  | Rapla infrastructure maintenance facility |  |  | TBD | TBD |
|  | Regional stations/stops (full list see in Annex 2) |  |  | TBD | TBD |
| Latvia | | | | | |
|  | Skulte infrastructure maintenance facility |  |  | TBD | TBD |
|  | Iecava infrastructure maintenance facility (including Heavy Maintenance Depot) |  |  | TBD | TBD |
|  | Salaspils intermodal terminal |  |  | TBD | TBD |
|  | Rolling stock depot in Rigas area 1 |  |  | TBD | TBD |
|  | Rolling stock depot in Rigas area 2 |  |  | TBD | TBD |
|  | Riga Central Station (safe integration assessment only) | BERERIX – D&B |  | x | x |
|  | RIX (incl. RIX cargo yard) | PROSIV - de-sign;  B.S.L. Infra - construction |  | x | x |
|  | Adaži military station (optional) |  |  | TBD | TBD |
|  | Regional stations/stops (full list see in Annex 2) |  |  | TBD | TBD |
| Lithuania | | | | | |
|  | Panevežys passenger terminal building |  |  | TBD | TBD |
|  | Kaunas Central station  Kaunas Rolling Stock Depot  Kaunas Marshalling Yard |  |  | TBD | TBD |
|  | Panevežys infrastructure maintenance facility |  |  | TBD | TBD |
|  | Kaunas infrastructure maintenance facility |  |  | TBD | TBD |
|  | Jonava freight station |  |  | TBD | TBD |
|  | Vilnius Intermodal Terminal (reconstruction),  Vilnius 1435 mm gauge marshalling yard,  Vilnius rolling stock depot |  |  | TBD | TBD |
|  | Vilnius passenger station |  |  | TBD | TBD |
|  | Kaunas Airport station |  |  | TBD | TBD |
|  | Panevežys Freight terminal |  |  | TBD | TBD |
|  | Vilnius airport station |  |  | TBD | TBD |
|  | Regional stations/stops (full list see in Annex 2) |  |  | TBD | TBD |

* 1. Some objects (for example, bridges) of Design Priority Sections could be constructed and used for other operational services (for example for road traffic) before Rail Baltica railway operation will begin on mentioned objects.
  2. As per current information, Construction sections are defined according to the definition of Design sections (see Annexes 2-4), or to the definition of Local facilities.
  3. Operating sections are composed from the assembly of constructions sections.
  4. The price proposal for assessment at design stage , construction/integration stage and safe integration stage, shall apply for all activities as described in chapter 4, 5 and 6.

# **Responsibilities of AsBo Experts**

* 1. Required Lead-Experts (Project Leader and Lead Assessors) for AsBo services are stated in Table 3.
  2. Required additional Expert roles and responsibilities are stated in Table 4.
  3. AsBo shall be responsible for ensuring, that all proposed Lead-Experts and additional Experts (Tables 3 and 4) have relevant professional skills and knowledge confirmed in accordance to the European Union law (if required). Lead-Expert and additional expert roles cannot be combined, i.e., for each expert’s role must be designated separate person.
  4. AsBo and all involved Lead-Experts and additional Experts shall not have any relation or connection to the designated Contractors for the respective Design Sections in Rail Baltica Global project. A performer (Expert) of AsBo services shall certify in the opinion of the expert-examination that personal or material interests of neither expert, nor his or her relatives or transaction partners will affect the opinion of the expert-examination.
  5. Lead-Experts and additional Experts stated in Tables 3 and 4 could be replaced only in exceptional cases. AsBo has no right to change the Lead-Experts or additional Experts stated without the Client’ s approval. To get Client’ s approval, AsBo shall submit a formal written request which shall include all documents necessary for the Client to make sure that the proposed Lead-Expert or additional Expert complies with the qualification requirements included in the procurement regulations.
  6. The qualification of Lead-Experts and additional Experts must also comply with the requirements of Country’s legislation (if applicable).
  7. The Client preserves the right to request AsBo to replace any personnel in case of any of the following reasons:
     1. Non-timely performance of duties;
     2. Repeated careless performance of duties;
     3. Incompetence or negligence;
     4. Non-fulfilment of obligations or duties stipulated in the Contract;
     5. Termination of employment relations with AsBo;
  8. The Client shall approve or reject the replacement of above-mentioned personnel as soon as possible, but not later than after 10 (ten) days after receipt of all information and documents mentioned in chapter 16.6. The Client is responsible for provision of clear justifications in each case of rejection.
  9. AsBo shall identify Lead-Experts and roles for each work package assessment:

Table 3: Lead expert’s roles and responsibilities

| **No** | **Specialist Designation** | **Lead-Expert’s role/responsibilities** |
| --- | --- | --- |
| 1 | Project Leader | * Coordination with internal and external stakeholders to set up project in international environment; * Application of quality management principles and processes; * Development and maintaining an agreed project plan; * Planning and managing resources to meet project milestones; * Taking full responsibility for delivery of services and its quality. |
| 2 | Lead Assessor  for generic railway system | * Technical authority for all tasks related to risk assessment of railway systems, subsystems and related operation and maintenance; * Coordinating and approving technical work of other assessors, general quality of outputs and sign off assessment outputs; * Leading technical liaison with other organizations to help the client to ensure that duplication and omissions in relation to assessments are avoided; * Supporting the client in meetings; * Providing foresight and advice on emerging changes to regulations and standards and the implications to the AsBo services; * Providing expert knowledge of safety, risk assessment, legislation, procedures and processes, applicable international standards and a sound understanding of engineering management; * Ensuring that scope definitions, AsBo assessment plan and other technical deliverables are in place as necessary. * Technical validator that the output meets the necessary compliance requirements and provides the required governance for a Program of this type. |
| 3 | Lead Assessor for  Risk management | * Technical authority for assessing suitability of risk management applied for system and subsystems; * Coordinating and approving technical work of other assessors, general quality of outputs and sign off assessment outputs; * Leading technical liaison with other organizations on the safety assessment plan to help the client to ensure that duplication and omissions in relation to assessments are avoided; * Supporting the client in meetings; * Providing foresight and advice on emerging changes to regulations and standards and the implications to the safety assessment plan; * Providing expert knowledge of safety, risk assessment, legislation, procedures and processes, applicable international standards and a sound understanding of engineering management; * Ensuring that scope definitions, safety assessment plan and other technical deliverables are in place as necessary. Technical validator that the output meets the necessary compliance requirements and provides the required governance for a Program of this type. |
| 4 | Lead Assessor for Quality management | * Authority for all tasks related to quality management and assessment of quality systems; * Coordinating and approving technical work of other assessors, general quality of outputs and sign off assessment outputs; * Supporting the client in meetings; * Providing foresight and advice on emerging changes to regulations and standards and the implications to the safety assessment plan; * Providing expert knowledge of quality management systems; * Ensuring that scope definitions, safety assessment plan and other technical deliverables are in place as necessary. * Technical validator that the output meets the necessary compliance requirements and provides the required governance for a Program of this type. |

Table 4: Additional roles and responsibilities

| No | Specialist Designation | Expert’s role/responsibilities |
| --- | --- | --- |
| 1 | Deputy Project Leader | * Coordination with internal and external stakeholders to set up project in international environment; * Application of quality management principles and processes; * Development and maintaining an agreed project plan; * Planning and managing resources to meet project milestones;   Support Project leader for delivery of services and its quality. |
| 2 | Documentation manager | * Record keeping for all contract-related documentation and correspondence; * Managing and controlling of all assessment documentation; * Monitoring contract execution; * Communicating assessment documentation and contract-related information to all stakeholders. |
| 3 | Key technical expert in Railway infrastructure | * Providing expert knowledge of Railway infrastructure, substructures and engineering structures; * Providing expert knowledge of safety, applicable international standards and a sound understanding of engineering processes; * Performs evaluation of risk assessment documentation * Supporting Lead Assessor and entire assessor-team in technically complex matters; * Supporting the client in meetings; * Sharing technical competence with the client and other assessment bodies when appropriate; * Providing foresight and advice on changes of regulations and standards and the implications to the subsystem * Undertakes review and checking of evidence to ensure the output meets the necessary safety requirements. |
| 4 | Key technical expert in superstructures | * Providing expert knowledge of railway superstructure and track, including 1520 mm track gauge specifics; * Providing expert knowledge of safety, applicable international standards and a sound understanding of engineering processes; * Performs evaluation of risk assessment documentation * Supporting Lead Assessor and entire assessor-team in technically complex matters; * Supporting the client in meetings; * Sharing technical competence with the client and other assessment bodies when appropriate; * Providing foresight and advice on changes of regulations and standards and the implications to the subsystem. * Undertakes review and checking of evidence to ensure the output meets the necessary safety requirements. |
| 5 | Key technical expert in energy systems | * Providing expert knowledge of energy subsystem; * Providing expert knowledge of safety, applicable international standards and a sound understanding of engineering processes; * Performs evaluation of risk assessment documentation * Supporting Lead Assessor and entire assessor-team in technically complex matters; * Supporting the client in meetings; * Sharing technical competence with the client and other assessment bodies when appropriate; * Providing foresight and advice on changes of regulations and standards and the implications to the subsystem. * Undertakes review and checking of evidence to ensure the output meets the necessary safety requirements. |
| 6 | Key technical expert in fire & explosion safety | * Providing expert knowledge of fire safety and explosion safety related to railway transport; * Providing expert knowledge of safety, applicable international standards and a sound understanding of engineering processes; * Performs evaluation of risk assessment documentation * Supporting Lead Assessor and entire assessor-team in technically complex matters; * Supporting the client in meetings; * Sharing technical competence with the client and other assessment bodies when appropriate; * Providing foresight and advice on changes of regulations and standards and the implications to the subsystem. * Undertakes review and checking of evidence to ensure the output meets the necessary safety requirements. |
| 7 | Key technical expert in environmental safety | * Providing expert knowledge of environmental safety issues; * Providing expert knowledge of safety, applicable international standards and a sound understanding of engineering processes; * Performs evaluation of risk assessment documentation * Supporting Lead Assessor and entire assessor-team in technically complex matters; * Supporting the client in meetings; * Sharing technical competence with the client and other assessment bodies when appropriate; * Providing foresight and advice on changes of regulations and standards and the implications to the subsystem. * Undertakes review and checking of evidence to ensure the output meets the necessary safety requirements. |
| 8 | Key technical expert in EMC | * Providing expert knowledge of EMC and earthing concept; * Providing expert knowledge of safety, applicable international standards and a sound understanding of engineering processes; * Performs evaluation of risk assessment documentation * Supporting Lead Assessor and entire assessor-team in technically complex matters; * Supporting the client in meetings; * Sharing technical competence with the client and other assessment bodies when appropriate; * Providing foresight and advice on changes of regulations and standards and the implications to the subsystem. * Undertakes review and checking of evidence to ensure the output meets the necessary safety requirements. |
| 9 | Key technical expert for  operation and maintenance | * Technical authority for risk assessment related to operation and maintenance of the railway systems and subsystems; * Coordinating and approving technical work of other assessors, general quality of outputs and sign off assessment outputs; * Performs evaluation of risk assessment documentation * Leading technical liaison with other organizations on the safety assessment plan to help the client to ensure that duplication and omissions in relation to assessments are avoided; * Supporting the client in meetings; * Providing foresight and advice on emerging changes to regulations and standards and the implications to the safety assessment plan; * Providing expert knowledge of safety, risk assessment, legislation, procedures and processes, applicable international standards and a sound understanding of engineering management; * Ensuring that scope definitions, safety assessment plan and other technical deliverables are in place as necessary. Technical validator that the output meets the necessary compliance requirements and provides the required governance for a Program of this type. |
| 10 | Key technical expert in rolling stock | * Providing expert knowledge of rolling stock subsystem (test train); * Providing expert knowledge of safety, applicable international standards and a sound understanding of engineering processes; * Performs evaluation of risk assessment documentation * Supporting Lead Assessor and entire assessor-team in technically complex matters; * Supporting the client in meetings; * Sharing technical competence with the client and other assessment bodies when appropriate; * Providing foresight and advice on changes of regulations and standards and the implications to the subsystem. * Undertakes review and checking of evidence to ensure the output meets the necessary safety requirements. |
| 11 | Quality Assessor | * Providing expert knowledge of Quality Management; * Providing expert knowledge, applicable international standards and a sound understanding of quality processes; * Performs evaluation of risk assessment documentation * Supporting Lead Assessor and entire assessor-team in technically complex matters; * Supporting the client in meetings; * Sharing technical competence with the client and other assessment bodies when appropriate; * Providing foresight and advice on changes of regulations and standards and the implications to the quality subsystem. * Undertakes review and checking of evidence to ensure the output meets the necessary QM requirements. |

# **AsBo assessment deliverables**

* 1. AsBo shall deliver safety assessment reports and supporting documents in accordance with applicable EU Regulations.
  2. The assessment process and all deliverables shall be aligned with the Master Program in order to not jeopardise the agreed Global Project deliverables.
  3. All reports and supporting documents shall be delivered in paper, PDF and editable (e.g. MS Word) file formats.
  4. The list of deliverables to be provided, but not limited, is described below in Table 5.

Table 5: Deliverables

|  |  |  |
| --- | --- | --- |
| **No.** | **Deliverable** | **Contents/Acceptance criteria** |
| **1.** | **Inception Report and Initial assessment report for Global Project** | * According to requirements set in Chapters 9 to 12, 4 to 6 and in Annex 4. |
| **2.** | **Design assessment reports** | * According to requirements set in Chapters 4 to 6 and in Annex 4. |
| **4.** | **Construction/Integration assessment reports** | * According to requirements set in Chapters 4 to 6 and in Annex 4. |
| **5.** | **Safe integration assessment reports** | * According to requirements set in Chapters 4 to 6 and in Annex 4. |
| **6.** | **Additional assessments reports** | * According to requirements set in Chapters 4 to 6 and in Annex 4. |

# **Reference documents**

* 1. Following European Standards and Regulations shall be considered for execution of AsBo Services:
* The Directive (EU) 2016/798 of the European parliament and of the council of 11 May 2016 on railway safety
* The Commission Implementing Regulation (EU) N° 402/2013 of 30 April 2013 on the common safety method for risk evaluation and assessment and repealing Regulation (EC) No 352/2009, modified by the Commission Implementing Regulation (EU) 2015/1136 of 13 July 2015;
* EN ISO 9001: Quality Management System: Requirements, 2015;
* EN ISO 19011: Guidelines for quality and/or environmental management systems audit, 2018;
* EN ISO/CEI 17021: Conformity assessment – Requirements for bodies providing audit and certification of management systems, 2015;
* EN ISO/IEC 17020:2012; Conformity assessment - Requirements for the operation of various types of bodies performing inspection (ISO/IEC 17020:2012)
* IAF Informative Document on the Management of Extraordinary Events or Circumstances Affecting ABs, CABs and Certified Organizations (IAF ID 3: 2011 – Issue 1);
* IAF Mandatory Document for the Use of Information and Communication Technology
* (ICT) for Auditing/Assessment Purposes (IAF MD 4:2018 – Issue 2);
* RFU-STR-704 Version 02 del 11/05/2020 REMOTE EVALUATION DUE TO COVID-19 PANDEMIC (document of NB-Rail);
* EA communication to EA members and accredited conformity assessment bodies regarding the outbreak of COVID-19, 23.03.2020.
  1. Following local National Regulations stipulates requirements of railway safety, CSM-RA and involvement of AsBo in Baltic States for APiS:
     1. National Regulation in Estonia:
* Building Code adopted 01.07.2015;
* Railway Act passed 15.10.2020; 31.10.2020;
* The requirements for safety systems of IM/RUs and their implementation (adopted 03.12.2020 no. 83);
* The procedure for application of technical specifications of subsystems and interoperability constituents, the specific conditions for placing them in service and the list of essential requirements (adopted 27.11.2020 no. 80).
  + 1. National regulation in Latvia:
* Cabinet Regulation No. 500 adopted 19.08. 2014 “General Construction Regulations”;
* Construction Law adopted 09.07.2013;
* Cabinet Regulation No. 724 of 03.08.2010 "Railway technical operational regulations".
* Cabinet Rules No 530 adopted 02.09.2014 “Railway construction regulations”;
* Cabinet Rules No 374 adopted 09.06.2020 “Railway interoperability rules”;
* Cabinet Rules No 375 adopted 09.06.2020 “Railway safety rules”;
* Railway Law adopted 01.04.1998;
  + 1. National Regulation in Lithuania:
* Law of the Republic of Lithuania on Railway Traffic Safety (2003 December 16, No. IX-1905);
* Railway Transport Code of the Republic of Lithuania (2004 April 22, No. IX-2152);
* Approval of the Regulations for the Technical Use of Railways (1996 September 20, No. 297)
* Construction Technical Regulation STR1.04.04:2017;
* Rules for authorisation for placing into service of structural subsystems and rolling stock;
* Railway system interoperability rules.

# **ANNEXES**

|  |  |  |
| --- | --- | --- |
| ANNEX NO. 1 | DESIGN GUIDELINES (in force: 04.01.2021) |  |
| ANNEX NO. 2 | INDICATIVE CHARACTERISTICS OF DESIGN SECTIONS |  |
| ANNEX NO. 3 | RAIL BALTICA TRACK LAYOUT version 27 |  |
| ANNEX NO. 4 | WORK PACKAGES & PRICING REQUIREMENTS |  |
| ANNEX NO. 5 | DTD TECHNICAL SPECIFICATION EXAMPLE |  |
| ANNEX NO. 6 | INDICATIVE ASBO PROCESS SCHEME |  |
|  |  |  |

1. RB Rail AS intends to deliver operation and maintenance concepts along with the structural railway system. [↑](#footnote-ref-2)
2. Task for assessing the CCS trackside subsystems (ISA/AsBo mission) will be under external AsBo which assessment scope will include evaluation of generic product, generic application, specific application of ERTMS, Interlocking, Traffic Management System, train detection subsystems, trackside CCS equipment, and their integration in the Rail Baltica CCS subsystem. [↑](#footnote-ref-3)
3. For the purpose of a consistent implementation, it is proposed that Global Project safety activities would be developed following EN50126-1 as a recognized guidance to comply with CSM RA regulation. Other approaches for demonstrating compliance and for the demonstration itself might be selected by entities in charge of risk assessment. Any of those deliverables must be reviewed by AsBo. [↑](#footnote-ref-4)
4. Master Program will not be delivered as part of this Technical Specification but will be provided to AsBo later during execution of AsBo Services. [↑](#footnote-ref-5)
5. Individual Construction Objects as part of a DPS may be the object of separate risk assessment. [↑](#footnote-ref-6)
6. The split of construction sections is not established at this time and will be determined on the course of Global Project deployment. [↑](#footnote-ref-7)
7. Individual construction objects as part of construction section may be the object of separate risk assessment. [↑](#footnote-ref-8)
8. The split of operating sections is not established at this time and will be determined on the course of Rail Baltica deployment. [↑](#footnote-ref-9)
9. Evaluation of the organisation and safety management system developed by infrastructure manager is not in the scope of the Rail Baltica AsBo. Refer to 4.7 [↑](#footnote-ref-10)