PLANET – EGTC Contribution in Tasks and Subtasks defined in the Gran Agreement

Task n°, Lead, Duration as in GA	EGTC proposal (e-mail to project leader in application phase)	Description of task in the Grant Agreement
1.2 Corridor impact analysis (lead: Panteia)	Contribution to the strategic analysis & simulation of the impact on the TEN-T by EGTC office, members and thematic working groups	This task aims to: a. build upon the analysis undertaken in Task 1.1, and use modelling and simulation in order to assess in more detail the expected impact of new trade routes on the TEN-T network b. assess the potential impact regarding disadvantaged regions and their inclusion into the international trading system and integration in the TEN-T network. ST1.2.2 Simulation of the impact of emerging trade routes on the TEN-T and on disadvantaged regions: In this subtask, the scenario simulation will be carried out delivering the volumes per current and emerging trade routes, for the year 2030 and 2050 for all the TEN-T corridors. Deepsea port volumes, hinterland terminal volumes, and freight flows will be determined using the model, giving insights in the modal split, external costs (emissions, noise, congestion, accidents) and transport costs. Analysis of corridors will reach specific product level to allow impact of technologies (T1.4) such as 3D printing on the international flow of some products Based on the simulation results, potential up- or downgrades of existing TEN-T infrastructure will be identified, as well as missing links and the potential locations of hubs. Also, the impact of emerging routes on disadvantaged regions in the areas around the routes will be assessed.
1.3 Legislative analysis (lead: UIRR)	Contribution to the analysis and impact assessment of legislative and policy initiatives by EGTC office and thematic working groups	This task aims to define the impact of forthcoming international, EU and national legislative initiatives and EU policy initiatives on the development of the EGTN. ST1.3.1 Analysis and preliminary impact assessment of forthcoming international, EU and national legislative initiatives on the development of the EGTN will focus on the main legislative initiatives at international, EU and national level that could have a significant impact on the realisation of the EGTN. The national initiatives to be considered are the ones of the EU countries (in cases where differences at the implementation of EU legislation exist) and the ones of the non-EU countries along the three emerging routes/corridors to/from Europe identified in Task 1.2. The analysis will consider forthcoming initiatives, i.e. initiatives that are either at (i) in an ongoing legislative process, or (ii) having completed the legislative process and there is an agreed date of coming into effect in the near future, or (iii) have been placed as a priority in forthcoming legislative action plans. Examples include the proposed amendment of the Combined Transport Directive, the proposed Regulation on establishing a European Maritime Single Window environment, the proposed Regulation on Electronic Freight Transport Information (EFTI) etc. The work to be undertaken will include the following steps: 1. Provision of legislation factors to be considered in T1.1 2. identification of forthcoming international, EU and national legislative initiatives that could impact the development of the EGTN, using experts' focus groups 3. preliminary qualitative assessment of the impact of each initiative on the EGTN's attributes as defined in section 1.3.1 and the LLs using experts' focus groups 4. prioritisation of the forthcoming legislative initiatives and selection of the ones to be used in Task T1.5 ST1.3.2 Analysis and preliminary impact assessment of EU policy initiatives affecting EGTN with particular reference to DTLF will focus on the main EU policy initiatives that could have a significant effect on the realisation of the EGTN, and which have not yet been translated into a specific legislative proposal. The DTLF II initiative is expected to serve as the focus of this Task by participants in both DTLF II subgroups (e.g. INLECOM, UIRR, CERTH, VPF). The work to be undertaken will include the following steps: 1. identification of potential future EU policy actions that could impact the development of the EGTN, drawing from the ongoing DTLF results (especially from SG2 on optimising cargo flows along transport corridors) 2. preliminary qualitative assessment of the impact of each potential future policy initiative on the EGTN's attributes as defined in section 1.3.1 using experts' focus groups 3. prioritisation of the potential future policy initiatives and selection of the ones to be used in T1.5 ST1.3.3 List of key barriers arising from relevant legislation and policies will define the key implementation barriers faced by the prioritised forthcoming legislative initiatives (Subtask 1.3.1) and potential future policy initiatives (Subtask 1.3.2): 1. identification of implementation barriers for each one of the prioritised legislative and policy initiatives 2. semantic alignment, removal of duplicate barriers and definition of final barriers' list 3. classification of barriers according to the main EGTN attribute they have an impact on (i.e. geo-economics aware, innovation embedding, impactful, integrated, inclusive) 4. linkage of each barrier to the main recommendation categories foreseen in WP4 (i.e. TEN-T Interfacing to Global trade routes – Task 4.1, guide on disadvantaged regions – Task 4.2, capacity building programmes – Task 4.3, technology roadmaps – Task 4.4, standardisation – Task 4.5.
1.5 EGTN Reference Specification:	No input from EGTC in the proposal	The Task aims to translate the results of the work undertaken in Tasks T1.2-T1.4 into specifications for realising the EGTN. The specifications will be used to provide requirements for WP2. Interaction with the LLs will be ascertained to: (i) produce refinements in the EGTN specification which will become a public deliverable together with the library of associated models; (ii) to ensure that the LLs cover corridors and/or nodes of European significance also for the future. The EGTN is structured in the form of three interacting layers: a physical layer, a technological layer, and a governance layer. This Task will define the specifications for each layer, providing answers to the following questions: (i) how should the EGTN be structured in terms of physical corridors and nodes? (ii) how should the EGTN be structured in terms of its technological infrastructure in order to operate under a PI paradigm? (iii) how should the EGTN be governed in order to operate effectively? ST1.5.1 Defining the EGTN vision for 2030: Previous Tasks have focused on simulating the impact of emerging trade corridors on the TEN-T flows and infrastructure development plans (T1.2) and of PI-facilitating innovations on optimising logistics operations (T1.4). The present sub-task will link the two modelling dimensions (TEN-T & PI) and thus: (i) enrich the TEN-T modelling with the technological and organisational innovation dimension embedded in the PI modelling; (ii) enrich the PI modelling with the

		geographical & infrastructural dimension provided by the TENT modelling. The main synergistic impacts of this interaction are the: (i) provision of more realistic results as both infrastructural & innovation aspects are brought together; (ii) ability to answer the question: if additional infrastructure capacity is required at the TEN-T network, can the introduction of innovative concepts and technologies reduce the needed public funding? To achieve this, the results of technological innovation modelling (T.1.4) will be generalised at a EU level and will be fed into a re-iteration of TEN-T modelling undertaken in T.1.2. The results of the simulation will define the vision for the EGTN for 2030, as a geo-economics aware and innovation embedding European T&L network flows. The simulation results will feed the EGTN specifications (T1.5.2, T1.5.4). ST1.5.2 EGTN physical layer specifications: Starting from the EGTN vision for 2030, the physical layer specifications will ensure that the EGTN fulfils its 'geo-economics' attribute, i.e. that it is aware of the geo-economics aspects driving the development of new trade routes to/from Europe and their impact on the TEN-T. The network simulation (T1.2 and ST1.5.1) will lead to the specification of EGTN's physical layer: 1. new (or of revised significance) corridors & entry points as a result of emerging trade routes 2. new (or of revised criticality) capacity bottlenecks on corridors & entry points as a result of emerging trade routes. The physical layer specifications will be fed into the Living Labs' specifications (T3.1). A cross-comparison of the EGTN's physical structure with the PLANET LL corridors will be made, to ensure that the latter cover corridors and/or nodes of future European significance. Based on this comparison, if needed, revisions and/or extensions of the LL corridors will be made. ST1.5.3 EGTN technological layer specifications: The technological layer specifications will ensure that the EGTN fulfils its 'innovation embedding' attribute, i.e. that it takes full advantage of the potential of innovative logistics concepts and enabling technological innovations in its operation. A technological infrastructure will be required to leverage emerging technologies (e.g. Industry 4.0, blockchain, UAVs, etc.) in order for the EGTN to operate under a PI paradigm. Therefore, the present subtask will: 1. define the specifications for the EGTN to be able to operate as a full-fledged or hybrid conventional (transitional) PI network including: a. a network model specifying the EGTN 'design propositions' including location/capabilities of Principal Entry Nodes (PEN) interfacing TEN-T to global trade, Key Intermediate Nodes, Warehousing Nodes and Urban/City Nodes b. Transport gravity models will be used to assess the change in the volume of freight that might result from transport time or cost savings as a result of corridor improvements. c. Routing decision support models based on a new connectivity index for each EGTN transport node as described in section 1.3.2.1. 2. define the functions to be provided by the EGTN technological infrastructure in order to leverage emerging technologies, which will become the requirements for the PLANET Cloud-based Open EGTN Infrastructure. ST1.5.4 EGTN governance layer specifications: A goal-directed form of network governance is required to ensure that the EGTN members engage in collective and mutually supportive action, that conflict is addressed, and that network resources are used efficiently and effectively. The specifications for such a governance form will be defined in this subtask, addressing: (i) breadth of decisions to be made by the EGTN members; (ii) competencies required to achieve the EGTN goals; (iii) EGTN governing entity & responsibilities/tasks allocation to network members; (iv) EGTN evolution & expansion. The EGTN governance specifications will take into account the existing TEN-T governance structure (e.g. corridor for a/ coordinators) to ensure that wherever possible, synergies can be realised. The governance layer specifications will be fed into the EGTN's business model & commercialisation strategy (Task 5.3).
2.4 Multi-Actor Multi-Criteria Analysis (MAMCA) DSS	No input from EGTC in the proposal	This task develops: 1. Multi-user and multi-criteria models that will allow stakeholders to analyse and assess the effect of new T&L developments (e.g. new trans-continental freight routes) that cross or neighbour their regions. 2. Intelligent PI Nodes and PI Network services to optimise the efficiency of the whole transport system whilst reducing emissions ST2.4.1 Multi-Actor Multi-Criteria Analysis (MAMCA) DSS: Multi-Criteria Analysis (MCA) will be used to enhance policy analysis by explicitly considering the opinions of various stakeholders regarding investment scenarios that maximize for economic impacts from new corridors and routes. Stakeholder groups will identify a specific set of criteria and allocate weights to each distinct criterion. Depending on the weights that the stakeholders give to each criterion, distinct weighting methods will subsequently be adopted as direct weights, direct allocation, and so on. The resulting DSS models will be incrementally calibrated and will be made available to the Project's Living Labs to be applied across specific transport and corridor decision challenges. ST2.4.2 Intelligent PI Nodes and PI Network services: performing intelligent forecasting and planning, intelligent and automated operations, and real time reporting of operations and the status of the nodes and the network utilising outputs from T2.2 and T2.3 as well as the DSS tools.
3.2 LL2: Synchromodal dynamic management of TEN-T & intercontinental flows promoting rail transport (Lead: PANTEIA)	Providing input to development of consistent methodology on the design and coordination, based on members experience and providing the link to the CEF-project FENIX and its pilot cases, currently working on federated platforms. identifying and engaging	The common objectives of all LLs are: 1. to carry out analysis of AS-IS situation and produce LL specifications and innovation implementation & assessment plans including infrastructure corridor analysis and simulation-based designs of each LL EGTN solution with predicted flows and impact assessment of adopted innovations, refining WP1 outputs 2. to install and technically validate the Cloud Open EGTN Infrastructure in the LLs and monitor its performance 3. to develop the required functionalities for each LL EGTN Solution and obtain baseline measurements of KPIs included in the specification and complete user surveys 4. to operate the LL, collect measurements, assess impacts and provide feedback for refinements LL2 will focus on corridors linking China – Rotterdam, USA/UK/ Rhine-Alpine Corridor. The rail corridor selection will be made by UIRR as part of Use Case 2. The corridors for use case 1 will be decided at the beginning of use case 1 following an evaluation of best fit amongst Rotterdam shippers using this corridor and guided by input from Samsung, JD as LSP, IKEA, Heineken, Amazon. LL2 will focus on dynamic and Synchromodal management of TEN-T & intercontinental flows promoting rail transport and utilising the Port of Rotterdam (PoR) as the principal

	complementary networks, interested stakeholders and use cases to provide a wider understanding of the Living Labs.	smart EGTN Node coordinating the rail focused transport chains linking China through Rotterdam to/from USA, and the Rhine-Alpine Corridor destinations. LL2 will include 3 main use cases: 1. The first use case will focus on Synchromodality in a Blockchain enabled Platform utilising advanced IoT, supporting BlockLab customers & communities to create the best multi-modal alternatives for logistics solutions within the LL2 corridors43. [BlockLab, EUR, Samsung SDS Global SCL Netherlands, Dutch Customs] 2. The second use case will focus on investigating Eurasian rail freight expansion in the LL2 corridor by building on results from T1.2. UIRR will provide data from services and report on key issues to be addressed for infrastructure development, as well as examine potential for expanding services in the corridor and implement (in a test environment) the use of Blockchain on rail freight transport between China and Europe. LL2 will also utilize use case 1 tools to investigate freight flow synergies and Blockchain innovation to support integration with European RFCs. [UIRR, NEWO] 3. The third use case will analyse LL2 corridor flows and assess the implication for BlockLab and TEN-T infrastructure, extending T1.2 results with data from EGTC and use cases 1 and 2. The use of the PLANET tools by BlockLab and "Interregional Alliance for the Rhine-Alpine Corridor EGTC'' is directed at strategic corridor planning and in use by EGTC members in the context of use case1. [PAN, EGTC] EGTC facilitates and promotes the territorial cooperation among its members and to jointly strengthen and coordinate the territorial and integrated development of the multimodal Rhine-Alpine Corridor from the regional and local perspectives. EGTC will perform the strategic analysis and simulation of the impact on the TEN-T by the EGTC office, members and thematic working groups and will jointly showcase the applicability of PLANET models and tools to support corridor development strategies with PANTEIA. EGTC will improve its capability for strategic planning with improved prediction of flows and impact of innovations on capacity requirements. EGTC will promote integration of members in EGTN type networks.
4.1 TEN-T / CEF recommendations (lead: Panteia)	EGTC as a key TEN-T player and its members will strongly support (providing input, checking, commenting and fine-tuning) the formulation of targeted recommendations and their communication towards the institution concerned.	Task 4.1 will provide analysis and recommendations to feed future Connecting Europe Facility (CEF) and related Horizon Europe call topics, thus allowing for the integration of the PLANET project's results in the forthcoming Programme revisions (CEF 2023 review) and calls. This Task will partially build upon the results from Tasks 1.2 and 3.6. In doing so, three distinct topics will be analysed: (1) future implications for TEN-T stemming from expected changes in intra-European transport flow patterns as a result from global geo-economics trends; (2) future implications for TENT's connections with global networks as a result of those trends; and (3) future implications for TEN-T stemming from disruptive technologies. ST4.1.1 Future implications for TEN-T stemming from expected changes in intra-European transport patterns as a result from global geo-economic trends: Building upon the investigative reports of the three alternative routes Modelled in WP 1, a picture will emerge focusing on changing patterns in freight transport within the TEN-T network. Based on this, focal points for future CEF and related H2020 call topics will be identified for TEN-T hinterland connections and intermodal nodes. ST4.1.2 Future implications for TEN-T's connections with global networks as a result from global trends: The work will focus on TEN-T connectivity with global networks. Expected focal points include seaports, border crossings and transhipment facilities between the EU and third countries and customs procedures. Thus, particular points of attention are identified for post-2023 CEF and H2020 calls concerning interconnectivity between TEN-T and other (global) networks. ST4.1.3 Future implications for TEN-T stemming from disruptive technologies: Building upon the results from subtasks 4.1.1 and 4.1.2 and the results from the Living Labs referring to disruptive technologies, a survey is made of disruptive technologies both existing and expected that may deserve particular attention in forming post-2023 CEF and Horizon Europe call topics. This subtask will address both intra-European patterns as well as those pertaining to TEN-T connectivity to global networks. ST4.1.4 Synthesis and recommendations for post-2023 call topics: Results of subtasks 1, 2 and 3 will be consolidated set of recommendations that may serve as guidelines in the 2023 review of these programmes and shared with a group of stakeholders from Member States and Agencies involved in CEF procedures for further improvement on the basis of their contributions.
5.1 Stakeholder engagement (lead: ESC)	As for EGTC stakeholder engagement in the RALP-Corridor is key business, EGTC will contribute his experience in multi stakeholder analysis and engagement as well as his methodological knowledge in working on the different topics. Further EGTC, who is a stakeholder as such, will ensure committment and engagement of his members and networks to the project's stakeholder related activities	The main objective of T5.1 is to ensure stakeholders engagement throughout the entire duration of the PLANET project. As a solid foundation, the stakeholder analysis will identify the concerns and needs from all stakeholders relevant for PLANET. The Advisory Board, composed of external experts, will provide observations and recommendations to the project consortium. ST5.1.1 Stakeholder analysis: A systematic analysis will identify the most relevant stakeholders around the PLANET emerging technologies and the Integrated Green EU-Global T&L Networks and set up tailored engagement strategies. PNO will use WHEESBEE for this analysis - a Business Intelligence and Tech Mining tool aimed at supporting and stimulating the technological innovation processes of large enterprises, small and medium sized companies, and research centers. The main objective of this type of stakeholder analysis is to gather stakeholder information used to mobilise these stakeholders to support the project's exploitation objectives. The secondary objective is to contribute to defining useful exploitation actions for the project results. The final target is threefold: determining the right communication management strategy and explore the most vital issues for stakeholders to ensure the acceptance and uptake of the project results, and to build relationships with the key stakeholders of the project to support the following development and implementation of a commercialisation plan. The results of this task will be summarised and reported in D5.1. ST5.1.2 Advisory Board: The PLANET AB is an independent group composed of external experts that will provide expert advice to the project in order to maximize the impact of the project results as described in section 3.2. This subtask will provide dedicated communications with the Advisory Board both in requesting advice on specific activities, research questions and in circulating material for dissemination purposes.
5.4 Policy recommendations	EGTC will provide opportunities and	The objective of this task is to analyse policy developments affecting EGTN and formulate recommendations for further development to support industry transition to EGTN. Provide impact assessment for each recommendation.

(Lead: UIRR)	organization capacities for workshops around the business model development and prototyping. EGTC members will strongly support (providing input, checking, commenting and fine-tuning) the formulation of policy recommendations and their well-targeted dissemination, combined with lobbying activities.	ST5.5.1 Set contextual framework for policy recommendations based on D1.3 survey and potential impact of forthcoming international, EU and national legislative initiatives and EU policy initiatives and present it to DTLF industry forum to validate and refine. ST5.5.2 Carry out impact assessment of selected policy instruments and combination scenarios using the simulation capability D1.1. Organise workshop session during consortium meetings with Chinese and US partners and invited guests to gauze effectiveness of EU's strategic cooperation with China and the USA, provide analysis reports and policy recommendations. ST5.5.3 Select a high impact package of policy instrument and produce recommendations for submission to DGMOVE.