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BEREC Guidelines on the coordination of civil works according to Article 5(6) of the Gigabit Infrastructure Act

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Contents

Executive summary

1. The new Gigabit Infrastructure Act (GIA)[1] entered into force on 11 May 2024 and replaces the Broadband Cost Reduction Directive (BCRD)[2] adopted in 2014. Most provisions of the GIA shall apply from 12 November 2025 onward. The GIA (Article 1(1)) "*aims to facilitate and stimulate the roll-out of very high capacity networks (VHCNs) by promoting the joint use of existing physical infrastructure and by enabling a more efficient deployment of new physical infrastructure so that such networks can be rolled out faster and at a lower cost*." One important measure to achieve this objective is Article 5 "coordination of civil works", creating an obligation for network (not-necessarily electronic communication networks) operators and public sector bodies owning or controlling physical infrastructure to provide, in certain circumstances, a possibility for operators deploying VHCNs to coordinate their works with theirs, in order to save digging costs for example.

2. In Article 5(6) of the GIA, the co-legislators task the Body of European Regulators for Electronic Communications (BEREC) with the provision of Guidelines on "*apportioning the costs associated with the coordination of civil works", "the criteria that the dispute settlement bodies should follow when settling disputes falling within the scope of this Article"; and "the criteria for ensuring sufficient capacity to accommodate foreseeable future reasonable needs if coordination of civil works is refused.*" This is the objective of these BEREC guidelines, which are based on inputs from National Regulatory Authorities (NRAs) and stakeholders responding to a questionnaire during summer 2024, and a public consultation conducted in summer 2025 in close cooperation with the European Commission.

3. Regarding the apportioning of costs, BEREC believes that costs should be split between additional costs[3] and shared costs. Additional costs should be borne by the party asking for coordination, as they are only caused by this party. Shared costs, on the other hand, should be shared according to a fair but also straightforward methodology. Several such methodologies are suggested in these guidelines, each having its own advantages and being more suitable in some situations than in others. NRAs or Member States may determine which methodologies are more suitable to the national context, and Dispute Settlement Bodies (DSBs) should nevertheless determine disputes on a case by case basis, while trying to provide enough predictability to its decisions.

[1] Regulation (EU) 2024/1309 of the European Parliament and of the Council of 29 April 2024 on measures to reduce the cost of deploying gigabit electronic communications networks, amending Regulation (EU) 2015/2120 and repealing Directive 2014/61/EU (Gigabit Infrastructure Act) https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L_202401309

[2] Directive 2014/61/EU of the European Parliament and of the Council of 15 May 2014 on measures to reduce the cost of deploying high-speed electronic communications networks https://eur-lex.europa.eu/eli/dir/2014/61/oj/eng

[3] The term additional costs from the GIA is generally taken to mean the term incremental costs.

4. Regarding criteria to settle disputes, BEREC notes a strong willingness of most NRAs and stakeholders to focus on speed of the procedure and transparency. These principles should guide all DSBs in their work, and more particularly on issues about coordination of civil works, since many works can have strict time constraints, occupy public space, or be limited in time by public authorization. To that end, the GIA has established tight time limits both on negotiations and on dispute settlements.

5. BEREC believes that settling a dispute in one month will require that all necessary information is made available at the very beginning of the dispute by the party asking for settlement. In the case where the information provided in the initiation of proceedings by the requesting party is incomplete or unclear in the facts and/or alleged legal grounds, settling a dispute within the given time constraint may be impossible. In that case, DSBs may decide that this lack of information falls within the scope of exceptional circumstances justifying a delay in the settlement as provided in Article 13(2) of the GIA and recital 64. BEREC therefore considers that the one month time limit for resolving the dispute either does not start until the requesting party rectifies its information provided, or equivalently that the one month deadline will be extended in that situation. In order to make sure this remains an exceptional situation, BEREC suggests in these guidelines to provide predictability on these information requirements through some examples of information which the DSB may require before starting working on a dispute settlement. As for the other party, to avoid delaying strategies, BEREC recommends that preclusion and suspension rules might be used by the DSB, provided such rules would comply with the general administrative law in Member States (Preclusion rules determine until what time or under what conditions a party may submit new facts, evidence or objections during dispute settlement proceedings).

6. Finally, regarding the criteria for ensuring sufficient capacity to accommodate foreseeable future reasonable needs if coordination of civil works is refused, BEREC recommends that those needs are determined based on an estimation of the number of households and business premises in place or that can reliably expected to be to be built in the future and an assumption of the requirements, for business accesses, of potential multifibre access needs. Based on this estimation, relevant methodologies are suggested to determine the required capacity; in the case of ducts, the dimensions and number of ducts required to host the volume of fibre required will need to be determined. In the case of poles masts and towers the party refusing to coordinate civil works will need to take into account, and address, the possible effects of loading onto such physical infrastructure as a result of the installation of additional cables and equipment that may be required.

1. Introduction

7. The new GIA[4] entered into force on 11 May 2024 and replaces the BCRD adopted in 2014. Most provisions of the GIA shall apply from 12 November 2025 onward. The GIA (Article 1(1)) "*aims to facilitate and stimulate the roll-out of very high capacity networks (VHCNs) by promoting the joint use of existing physical infrastructure and by enabling a more efficient deployment of new physical infrastructure so that such networks can be rolled out faster and at a lower cost*." One important measure to achieve this objective is Article 5 "coordination of civil works" which lays down the following rights, obligations and exceptions.

8. Article 5(1) of the GIA foresees the right for network operators and also for public sector bodies owning or controlling physical infrastructure to negotiate agreements on the coordination of civil works, including on the apportioning of costs, with operators with a view to deploying elements of VHCNs or associated facilities.

9. Article 5(2) of the GIA imposes the following obligations on network operators and public sector bodies owning or controlling physical infrastructure, when performing or planning to perform directly or indirectly civil works, which are fully or partially financed by public means:

   - They shall meet any reasonable written request to coordinate those civil works under transparent and non-discriminatory terms made by operators with a view to deploying elements of VHCNs or associated facilities.

   - Such requests shall be met provided that certain cumulative conditions regarding additional costs, control over the coordination of the civil works and timing are met. In addition, Member States may specify detailed requirements relating to administrative aspects of the request.

10. Article 5(3) of the GIA foresees (and details) exceptions to the aforementioned obligation in rural or remote areas, which Member States may decide to consider in their application of Article 5. Also, Article 5(4) of the GIA sets out conditions, which if met allow for a refusal of coordination but require the party that refuses the request to coordinate to deploy sufficient capacity to accommodate possible future reasonable needs for third-party access. Moreover, Article 5(5) of the GIA states that certain types of civil works may be excluded by Member States if they are considered to be limited in scope or relate to critical national infrastructure or for reasons of national security.

11. In Article 5(6) of the GIA, the co-legislators task BEREC with the provision of the Guidelines as follows:

[4] Ibid. footnote 1

"*By 12 November 2025, after consulting stakeholders, the national dispute settlement bodies and other competent Union bodies or agencies in the relevant sectors, as appropriate, and after taking into account well-established principles and the specific situations of each Member State, BEREC shall, in close cooperation with the Commission, provide guidelines on the application of this Article, in particular concerning:*

(a) apportioning the costs associated with the coordination of civil works as referred to in paragraph 1;

(b) the criteria that the dispute settlement bodies should follow when settling disputes falling within the scope of this Article; and

(c) the criteria for ensuring sufficient capacity to accommodate foreseeable future reasonable needs if coordination of civil works is refused pursuant to paragraph 4."

12. Article 5(6) of the GIA and BEREC's role in providing Guidelines on that provision is also reflected in recitals 38 and 40 of the GIA.

13. Furthermore, Article 13(2) of the GIA states that the national DSB shall issue a binding decision to resolve disputes, "*taking full account of the principle of proportionality and the principles established in the relevant Commission guidance or BEREC Guidelines*".

14. These Guidelines, which were developed by BEREC, working in close cooperation with the Commission are based on inputs from NRAs and stakeholders responding to a questionnaire during summer 2024, and taking into account a public consultation conducted in summer 2025. They do not take precedence over the GIA regulation itself.

15. BEREC considers it very important that DSBs have a sufficient level of flexibility in their decision-making. Consequently, the guidelines focus on high level principles and leave the specific provisions to be set on a case-by-case basis. Hence the guidelines allow for adaptations to respect unique case-specific situations or any national circumstances of Member States. They may be complemented, if necessary, by national or local guidelines established by Member States or DSBs.

16. Provided that Member States chose to extend the obligations of GIA to fully privately funded civil works, DSBs and network operators should also consider applying the principles outlined in these guidelines to such projects.

2. Apportioning the costs associated with the coordination of civil works

17. This part recommends rules for apportioning the costs between the coordinating parties according to Article 5 of GIA. The main principles that BEREC recommends are as follows:

- Directly attributable costs should be borne by the party causing these;
- Shared costs should be analyzed on a case-by-case basis, based on objective criteria;
- For the shared costs, DSBs are recommended to use objective formulas reflecting either equity or proportionality principles. Some non-exhaustive examples are provided.

2.1 General principles

18. The apportioning of the costs associated with the coordination of civil works is of critical importance, as it could have a significant impact on competition and incentives for investments. For this reason, the apportioning of the costs should take into account. the following:

    - the general objective of the GIA Regulation (Article 1(1)) to facilitate and stimulate the roll-out of VHCNs by promoting the joint use of existing physical infrastructure and by enabling a more efficient deployment of new physical infrastructure so that such networks can be rolled out faster and at a lower cost;

    - the general objective of the European Electronic Communications Code (EECC)[5] (Article 3(2)(b)) to promote competition in the provision of electronic communications networks and services;

    - the general objective of the EECC (Article 3(2)(a)) to promote connectivity and access to, and take-up of, very high-capacity networks;

    - the EU connectivity targets for 2030: the objectives set out in the Decision (EU) 2022/2481 (DDPP)[6];

    - the need for a fair return on infrastructure investments and any time schedule for the return on investment (recital 25 of the GIA).

19. Therefore, BEREC considers the following general principles essential for the apportioning of the costs associated with the coordination of civil works:

    - Promotion of efficient infrastructure-based competition wherever achievable;

[5] Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32018L1972

[6] Decision (EU) 2022/2481 of the European Parliament and of the Council of 14 December 2022 establishing the Digital Decade Policy Programme 2030 https://eur-lex.europa.eu/eli/dec/2022/2481/oj/eng

- Ensuring a level playing-field between the involved operators, in particular, that the network operators have a fair opportunity to recover their costs when coordinating their planned civil works (recital 63 of the GIA);
- Ensuring economic viability of civil works projects performed by all network operators according to definitions in Article 2(1) of the GIA, including utility companies, and public sector bodies;
- Encouraging of investments in VHCN networks, including in fibre networks.

20. Considering these principles and the answers NRAs and stakeholders gave in response to the questionnaires, BEREC derived the following guidelines on the apportioning of the costs associated with the coordination of civil works.

21. To ensure the necessary leeway for the DSB in the decision-making the guidelines should focus on high level principles and leave the specific provisions to be set on a case-by-case basis. Hence the guidelines should allow for adaptations with respect to unique situations or any specificities of Member States.[7]

22. These guidelines seek to facilitate successful negotiations between the parties coordinating civil works. Cost proportionality and allocation play a key role in allowing coordination. Therefore, the practicability of the apportioning rules/methodologies is of very high importance. Only clear and easy-to-apply methodologies will facilitate coordination. Transparency on the cost items and their apportionment (e.g. reference catalogue of costs and cost classification) for all stakeholders is crucial to ensure consistency and fairness of cost apportioning with the aim to facilitate the alignment of expectations and goal-oriented negotiations. Nevertheless, the number of issues to be explored by the DSB must remain reasonable, as the DSBs are obliged to resolve the dispute cases within a limited timeframe. The DSB has the full right to apply any of the non-exhaustive methods described in the guidelines, without the need to make a conclusive comparison between such methods. However, BEREC invites DSBs to consider a potential need for predictability when selecting the methodology.

23. As a general principle the allocation of cost among the parties involved should be fair and reasonable. To be more specific, the guidance specifies and describes, in a clear and transparent manner, the various cost items and their assignment to the parties. The costs should generally be apportioned based on the principles of cost causation and benefit sharing. In this regard the following two main cost categories can be distinguished: additional/incremental/direct attributable costs and shared/common costs/non-directly attributable costs.

[7] These Guidelines are without prejudice to the requirements coming from applicable civil construction rules. Those rules might for example also include the requirement for safety distances within a trench which may also be considered when apportioning costs.

2.1.1. Additional/incremental/direct attributable costs:

24. Costs that concern (adjusted) planning and execution of the requested coordination which would otherwise not have occurred may be considered to be “additional” or “incremental”. More precisely, these costs include administrative costs, costs resulting from delays triggered by coordination, building costs for deeper/larger/longer trenches (increase of the capacity) or different digging methods, re-routing of trenches, (increased) safety costs depending on the utility networks. These also include higher installation costs[8] in the case where they arise due to the requirements of the requesting operator. These costs may also include costs that another party involved may incur as a result of coordination (such as additional personnel costs). These additional or incremental costs should generally be borne by the requesting party.

25. More broadly, costs that can be attributed directly to the individual parties should be borne by these parties in accordance with the cost causation principle and therefore do not need to be apportioned. For instance, supply segment specific costs (material such as ducts) could be considered to be direct costs when installed for exclusive use by one party. Indeed, each party should pay for their own materials if used exclusively (for instance, material such as ducts and installation/laying of such ducts).

26. The DSB may decide to classify additional building costs for deeper/larger/longer trenches not as “incremental” but as “shared” costs which can be apportioned based on a methodology (see following chapter 2.1.2) which is chosen by the DSB. By doing so all (total) trenching costs could be apportioned in the same way, if decided to do so by the DSB.

2.1.2. Shared/common costs/non-directly attributable costs:

27. The following costs could be considered to be “shared” or “common”: costs for the civil works (trenching), such as materials and labour for digging, backfilling, renewal of surface, restoration; transportation costs. For the categorization as common costs it is significant whether those costs would have been occurred by both parties even without coordinating. As mentioned above, some of these cost categories can also be additional/incremental costs (e.g. costs for additional trenching) if caused by the coordination only (for instance costs of planning can be either common costs or directly attributable depending on that criterion).

28. Moreover, overhead cost for the construction site (cost for the provision of the building site facilities, request for permissions and permit fees, costs of archaeological survey if needed, project management, documentation etc.) could be considered to be common costs.

[8] This means a (more complicated) handling of (more) fibre equipment (e.g. ducts, micro ducts, branch connections, fibre cables) of both.

29. For the purpose of the apportioning of those non-directly attributable shared or common costs different methodologies could be considered, of which a non-exhaustive selection will be presented. In *Annex 1: Examples and illustrations for cost-apportioning*, there are examples of this, including a discussion on typical situations where those methods may be relevant in practice.[9] BEREC recommends that DSB's find the right balance between adapting its decision practice on a case-by-case basis and providing predictability to the market by basing its decisions on a limited set of cases and formulas.

30. The formulas shown below[10] are assuming the most common situation where only two parties are coordinating their civil works. The formulas, however, can be adjusted to multiple parties if required by the individual case. The choice of method to be used is decided by the DSB.

a) Equality: Costs could be split equally among all parties. In the case of two parties involved in the coordination of civil works a 50:50 attribution-rule would facilitate a quick and easy decision in order to meet the tight timeframe for the DSB to make a decision. On the other hand, there could be cases where an equal split of all non-directly attributable costs may be deemed as unfair and unreasonable and might not result in a level playing field.

b) Proportionality:

   i) *Based on the capacity of the infrastructure (ducts and pipes) laid into the trench*: Costs could be split proportionally among the parties based on the capacity of the individually installed infrastructure (laid into the co-deployed trench as the level of benefit they derive from the coordination). The share of costs then depends on the infrastructures laid into the trench, for instance the dimension of the pipes/ducts, the number of ducts and/or number of cables or number of fibers installed for the individual use. This method is for example suitable when both parties have similar standalone costs[11] and lay a similar number and/or capacity of pipes. If the parties lay a different number of pipes, the party with fewer pipes in the shared trench may be overcompensated even if the parties have the same standalone costs. Overcompensation may be greater than the synergy effect from coordination.[12]

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[9] Note, that the examples focus on coordinated underground deployment. For coordinated aerial construction there was no experience shared in the consultation process. The main idea that directly attributable costs are borne by the individual parties while the remaining common costs will be shared also applies to aerial coordination.

[10] BEREC notes that other formulas have been used in several countries, they can also be useful in some situations. For instance, the following countries already have national guidelines or rules and procedures on the apportioning of costs associated with the coordination of civil works: Austria, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Hungary, Norway, Poland, and Portugal.

[11] Stand-alone costs are the costs that each party would have to bear in case no coordination takes place. Since costs are to be shared only in case coordination takes place, we called them "hypothetical" here.

[12] This is because of insufficient correlation between the cost driver and the parameter used to attribute the costs (the number of pipes laid).

Then, the following formula would apply:

$$CS_i = \frac{N_i}{N_{tot}} \times C_{tot}$$

with

CS_i	being the absolute cost share allocated to party *i*
N_{tot}	being the total number of deployed ducts and pipes
N_i	being the number of ducts and pipes deployed by party *i*, and
C_{tot}	being the total costs to be apportioned (with coordination),

where *i* could either be the requesting party (*rp*) or the network being asked to coordinate (*n*).

ii) *Based on the hypothetical stand-alone costs (Shapley value*): In this method, the percentage of the costs to be apportioned to each party is calculated based on the ratio between the parties' stand-alone costs.[13] This method results in the costs being apportioned cost-reflectively because it takes direct account of any differences in stand-alone costs. However, the stand-alone costs always have to be estimated. This method therefore has its limitations, in particular when these costs cannot be estimated reliably or can only be estimated with a great deal of effort, or when the parties involved do not agree on the level of the costs.

More precisely, the following formula would apply when using the stand-alone costs:

$$CS_i = \frac{C_i}{C_n + C_{rp}} \times C_{tot}$$

with

CS_i	being the absolute cost share allocated to party *i*
C_i	being the costs for the standalone project of party *i*
C_{rp}	being the costs for the standalone project of the party requesting coordination
C_n	being the costs for the standalone project of the network being asked to coordinate
C_{tot}	being the total costs to be apportioned (with coordination),

where *i* could either be the requesting party (*rp*) or the network being asked to coordinate (*n*).

[13] Ibid footnote 11

iii) *Based on the used capacity of the trench: Costs could be split proportionally* among the parties based on the capacity of the trench they use. The share of capacity of the trench could be based on the individually occupied space (cross-sectional area or volume of the trench respectively).[14]

$$CS_i = \frac{A_i}{A_n + A_{rp}} \times C_{tot}$$

with

CS_i being the absolute cost share allocated to party *i*

A_i being the cross-section area of the trench for the standalone project of party *i*

A_{rp} being the cross-section area of the standalone project of the party requesting coordination

A_n being the cross-section area of the trench for the standalone project of the network being asked to coordinate

C_{tot} being the total costs to be apportioned (with coordination),

where *i* could either be the requesting party (*rp*) or the network being asked to coordinate (*n*).

2.1.3. Other relevant considerations

31. The following aspects could be relevant for apportioning the costs associated with the coordination of civil works and should therefore be considered: Electronic communication network (ECN)-ECN vs ECN-other network, and state aid.

2.1.3.1. ECN-ECN vs ECN-other network

32. When attributing costs, DSBs should always be mindful to ensure a level playing field, in particular between companies competing in the same market.

33. Approaches on apportioning the cost can differentiate between ECN-ECN and ECN-non-ECN coordination. Moreover, a differentiation would allow to further reflect on the technical capacities that each network benefits from and could be used to incentivize coordination for non-ECN networks. Furthermore, the sector-specific regulation for

[14] If the occupied space is based on the dimensions of the standalone project, this method has its limitations, in particular when these dimensions cannot be estimated reliably or can only be estimated with a great deal of effort. This approach might have additional limitations in certain situations: E.g. both parties wish to deploy precisely the same infrastructure with the same capacity. Stand-alone trench for both parties would thus be the same. However, given the technical/safety conditions the coordinated trench would have to be almost doubled (compared to the stand-alone one).

other utility networks (e.g., electricity and gas, roads, railways) must be considered to avoid over-compensation.

2.1.3.2. State aid

34. Depending on the situation it might be necessary to examine the apportionment of public aid, and its distribution among the parties. Specifically, the state aid intensity can serve as a basis to determine the net cost incurred by the operator in deploying the shared infrastructure, unless more accurate and detailed information on costs is available.

3. The criteria that dispute settlement bodies should follow when settling disputes falling within the scope of Article 5 of the GIA

35. This section covers various considerations about the ways DSB should settle disputes on coordination of civil works based on Article 5 of GIA. The main principles that BEREC recommends are as follows:

- General dispute settlement rules (independence of the DSB, transparency of the procedure, etc.) apply the same way they do for other disputes;
- Time constraints defined in GIA (1 month to settle the disputes) are demanding. Consequently, the parties should provide information to the DSB swiftly. Missing information may, when foreseen in national procedural rules, require a suspension of the 1 month deadline;
- Transparency on the information requirement is provided through a list of suggested requirements with respect to information requests. BEREC recommends that in countries where the obligation to allow coordination of civil works has been extended to privately-funded works, the DSB should also consider applying the same rules to these privately-funded works.

3.1 Procedures relevant to the coordination of civil works

36. Article 13(1)(c) of the GIA indicates that if an agreement on the coordination of civil works is not reached within one month from the date of receipt of the formal request for coordination of civil works, either party may decide to refer to the national DSB. In this case, the GIA indicates, in recital 64, that the national DSB should resolve disputes in a timely manner, specifically, within one month of the date of receipt of the request to settle a dispute (Article 13(2)(b)) of the GIA.

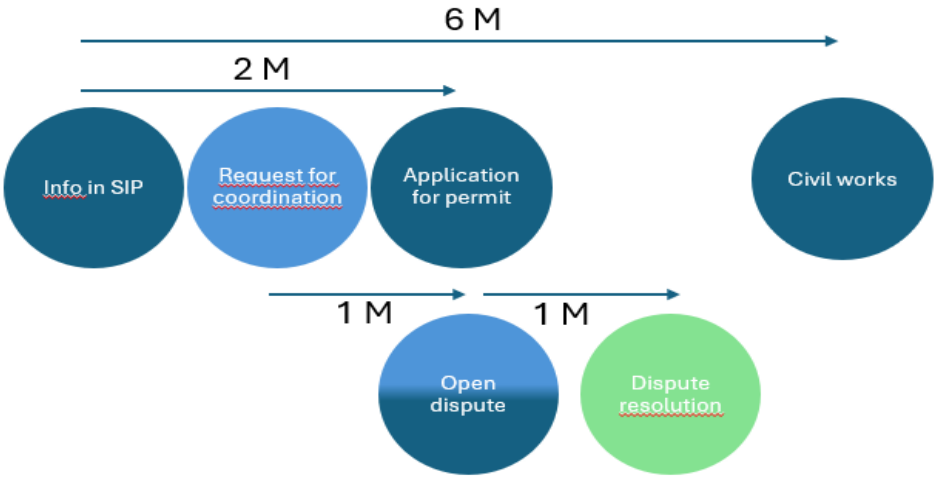
37. This deadline to resolve the dispute can however, according to Article 13(2) of the GIA, be extended in duly justified exceptional circumstances. In that regard, recital 64 states: "*Exceptional circumstances justifying a delay in the settlement of a dispute could be beyond the control of the dispute settlement bodies, such as insufficient information or documentation that is necessary to take a decision, including the views of other competent authorities that need to be consulted or the high complexity of the file*".

38. In the case of civil works which are fully or partially financed by public means, public sector bodies owning or controlling physical infrastructure and network operators shall meet any reasonable written request to coordinate those civil works under transparent and non-discriminatory terms (Article 5(2)) of the GIA. In these circumstances, it can be necessary to submit the project to permit-granting authorities.

39. In such cases, two deadlines apply:

- where the civil works in question require a permit, the request for coordination of the requesting party must be submitted at least one month before the submission of the final project to the permit-granting authorities (Article 5(2)c) of the GIA;
- the information for the single information point (SIP) of Article 6 of the GIA for planned civil works related to physical infrastructure must be made available as soon as the information is available to the network operator for the civil works envisaged in the following six months and, in any event and where a permit is envisaged, not later than two months before the first submission of the application for a permit to the competent authorities.

Figure 1 Time constraints for coordination



40. A dispute can be started by any party (without prejudice to the possibility to refer a case to a court) where an agreement on the coordination of civil works has not been reached within one month of the date of receipt of the formal request to coordinate (Article 13(1)(c)) of the GIA.

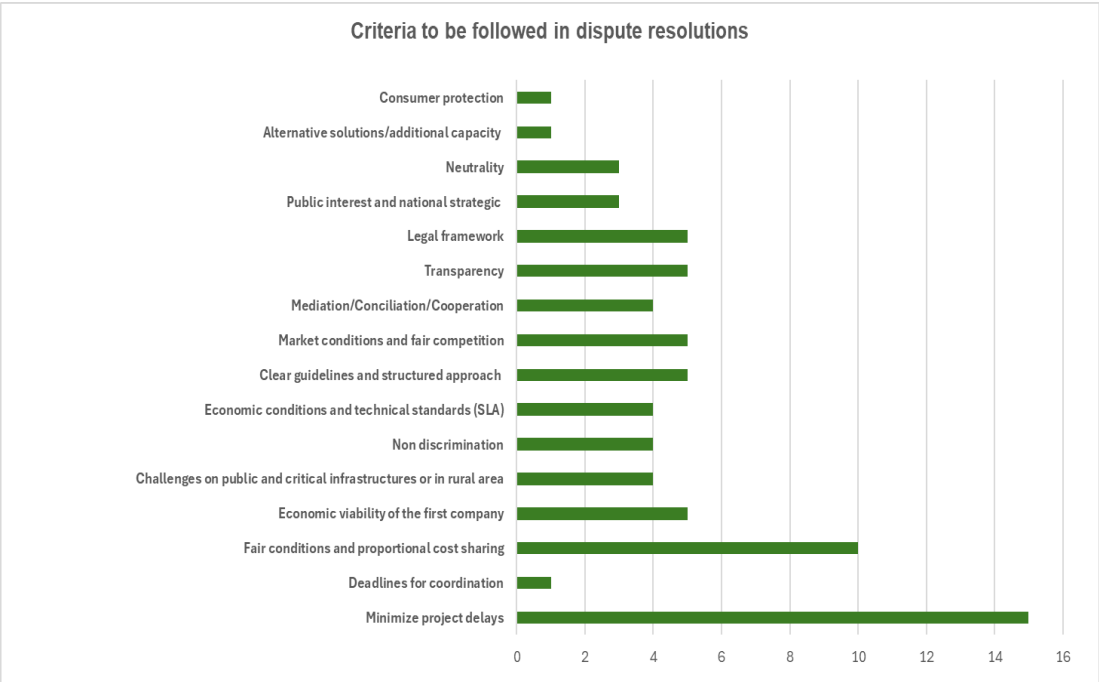
41. The earlier the minimum information on planned civil works is made available, the more coordination can be facilitated and even potentially reduce the number of disputes. It is thus of utmost importance to handle the tight timeframes in an efficient manner by all parties involved: the stakeholder planning civil works, the one requesting coordination, and the DSB.

3.2 Evaluated criteria to consider during the processing of dispute procedures

42. In view of the previous point, before going into the determination of the specific criteria to be followed by DSBs in resolving disputes on coordination of civil works, it is necessary to identify the criteria to be considered by DSBs on the processing of disputes procedures.

43. According to the recommendations provided by the stakeholders in their responses, the top of criteria for effective dispute resolution are:

Figure 2: Criteria to be followed in dispute resolutions; Stakeholders responses



44. As can be observed in this figure, the most important criteria that DSBs should consider in resolving a dispute of coordination of civil works are: (1) minimizing project delays due to the length of the dispute procedure, and (2) ensuring fair conditions and proportional distribution of costs as well as the economic viability of the first company to carry out the civil works.

45. Other criteria mentioned by stakeholders, such as having clear guidelines for resolving disputes, ensuring competition in the market, as well as the legal and regulatory framework and being transparent and neutral in their decisions are general principles and objectives established in Article 3 of the EECC, which all NRAs must pursue in their actions and procedures such as resolving disputes between operators, between operators and entities that benefit from access and interconnection obligations and between operators and associated resources providers.

46. In relation to minimizing dispute resolution times, as mentioned above, Article 13(2) and recital 64 of the GIA establish that the time limit for resolving disputes over the coordination of civil works is one month from the time they are raised by the operators; this time limit may only be extended in duly justified exceptional circumstances.

47. Precisely, some of the issues that can be highly complex are those related to the distribution of fair costs or the guarantee of sufficient capacity to satisfy reasonable future needs if the coordination of civil works is refused under Article 5(4) of the GIA. The adoption of these guidelines will seek to help DSBs in reducing the time it takes to resolve disputes related to these 2 issues (see sections 2 and 4) and any other complex issue which may arise. These guidelines could also serve to reduce the number of disputes between operators.

48. Article 5(2) of the GIA indicates that Member States may specify detailed requirements relating to the administrative aspects of the request, which might facilitate the complaint to the DSB and thus helps the DSBs making a timely decision. Nevertheless, lack of sufficient information or documentation necessary to make a final decision by a DSB is very common. For example, it could be necessary to collect additional information from the local public entity that develops civil works, which is not included in the SIP, according to the list of information established in Article 6 of the GIA, (cost details, capacity of the physical infrastructure concerned, deadline for the completion of the final civil works, explanations of the reason for rejection, etc.). Similarly, the DSB may need to collect information from the operator interested in the coordination of civil works that was not provided at the time of bringing the dispute.

49. The need to request this information may significantly extend the one-month resolution period established in the GIA to resolve this kind of disputes. For that reason, guidelines on the criteria to be followed by DSBs in resolving disputes falling within the scope of Article 5 of the GIA should guide these preliminary issues, which are addressed in the next section.

3.3 Content aspects to be considered by taking the decision within the scope of Article 5 of the GIA

3.3.1 Civil works subject to coordination obligation

50. The GIA reinforces the obligation to meet reasonable requests for the coordination of civil works that have been fully or partially financed with public funds, by including both network operators and public sector bodies among the obligated parties.

51. However, in accordance with the provisions of Article 5(2) of the GIA, the DSB must assess whether the coordination request is intended to deploy VHCN elements or associated facilities, and whether the three cumulative conditions set out in Article 5(2) are met.

52. If civil works are not financed by public means, provided the Member States did not extend this obligation to civil works fully financed by private means, in light of recital 36 of the GIA, network operators could conclude civil works coordination agreements according to their own investment and business plans and their preferred timing.

53. The DSB should also consider, in accordance with existing national regulations, whether the coordination of civil works related to fully privately funded projects is possible, see recital 11 of the GIA. In this regard, several Member States have extended or could extend this obligation on coordination of privately funded civil works in their national regulations[15]. Therefore, BEREC recommends that the guidelines also apply.

3.3.2 The possible causes for refusal of requests for the coordination of civil works

54. Article 5 of the GIA foresees under paragraphs (3), (4) and (6) reasons to refuse a request to coordinate civil works. These cases include:

- Cases where a geographical survey and/or forecast has been carried out pursuant to Article 22(1) and (2) of the EECC or a public consultation within the framework of the state aid scheme, and the requesting company did not express with those occasions its intention to deploy very high-capacity networks in the area subject to the coordination request, according with provisions of Articles 22(3) of the EECC and 5(4) of the GIA;
- Cases of denial of a request for coordination of civil works for security reasons identified by Member States or because they involve critical national infrastructures;

[15] According to the NRA's responses to the BEREC questionnaire, 10 Member States have extended this obligation in their national legislation.

- Cases in which works are limited scope;
- Cases where the refusal of a request to coordinate civil works is based on the exemption from coordinating works carried out by public sector bodies that contribute to the deployment of VHCN in rural or remote areas and operate solely on a wholesale basis.

55. If there is a dispute pending with the DSB regarding a refusal of coordination of civil works, BEREC considers that the continuation of the civil works despite the pending dispute may be grounds for civil action by the party that was refused (depending on general administrative and civil law in the MS) especially in the case where the refusal was not legitimate under the rules described above.

3.3.3 Information to be provided by operators involved in the dispute

56. According to recital 59 of the GIA, to foster the modernisation and agility of administrative procedures and reduce the cost of and time spent on the procedures for deploying VHCNs, the services of single information points (SIP) should provide easy access to the necessary digital tools. In relation to planned civil works the relevant SIPs should:
    - enable operators to make the minimum information on planned civil works available via the SIPs;
    - ensure the possibility to request and have access to the minimum information on planned civil works, and
    - optionally to provide access to electronic administrative procedures for the granting of permits and rights of way, and consultation of related information on applicable conditions.
57. In addition, Article 6(1) first sub-paragraph of the GIA on *"Transparency in relation to planned civil works"* provides that to enable the negotiation of agreements on coordination of civil works referred to in Article 5 of the GIA, any network operator and public sector bodies owning or controlling physical infrastructure shall make available via a SIP the following minimum information:
    - the georeferenced location and the type of works;
    - the elements of physical infrastructure involved;
    - the estimated date for starting the works and their duration;
    - the estimated date for submitting the final project to the competent authorities for granting permits, where applicable; and
    - a contact point.

58. All this information must be correct and up to date and made available promptly, via a SIP, as soon as the information is available to the network operator for its civil works envisaged in the following six months and, in any event and where a permit is envisaged, not later than two months before the first submission of the application for a permit to the competent authorities.

59. Operators shall have the right to access the minimum information referred to in the previous paragraph in electronic format, upon reasoned request, specifying the area in which the requesting operator plans to deploy elements of the VHCN or associated facilities (Article 6(1) third sub-paragraph of the GIA).

60. Article 14(8) of the GIA states that, where appropriate, the competent bodies (e.g. including the ones designated as DSBs or SIPs) shall consult and cooperate with each other on matters of common interest, such as ensuring access to the minimum information made available/accessed via the SIP that is subject to a dispute. Access to the information available in the SIP should be guaranteed to DSBs in cases where the latter are not responsible for its management, in order to speed up procedural deadlines.

61. According to Article 14 of the GIA, "*[A]ll parties concerned by a dispute shall cooperate fully with the national dispute settlement body*".

62. In order to speed up the processing of disputes and allow DSBs to honour the deadlines for dispute resolution foreseen in the GIA, BEREC considers it appropriate to set out in these guidelines the specific information that operators or entities should provide to the DSB when they raise disputes relating to the coordination of civil works, without prejudice to the provisions of the national regulations of the Member States on the matter.

63. The DSBs may decide that, in case the information provided in the initiation of proceedings by the requesting party is incomplete or unclear in the facts and/or alleged legal grounds, settling a dispute within the given time constraint may be impossible. In that case, DSBs may decide that this lack of information falls into the scope of exceptional circumstances justifying a delay in the settlement as provided by Article 13(2) of the GIA and recital 64. Indeed, recital 64 states that *"Exceptional circumstances may arise, beyond the control of the dispute resolution bodies, which justify the delay in the resolution of a matter, such as the lack of information or documentation necessary to resolve, including the opinion of other competent authorities that must be consulted, or the great complexity of the file in question".* BEREC therefore considers that – without prejudice to the rights of a party to address the DSB - the one month time limit for resolving the dispute either does not start until the requesting party rectifies its information provided, or the one month deadline will be extended.

64. Given the potential lack of some information provided by the operator or entity that is involved in a dispute, it is recommended that the DSBs request the following information that may be necessary to resolve their dispute, from the parties involved. In addition, the DSBs could facilitate a mechanism for submitting requests for dispute settlement that could include formal online-intake-forms with mandatory fields, as well as public guidance on the assessment of submissions.

65. This is a non-exhaustive list of potential information that the parties involved in the dispute should provide to the DSB or that the DSB may request from them, as appropriate:

- The request for coordination of civil works sent/received to/from the entity performing or planning to perform, directly or indirectly, civil works fully or partially financed by public means;
- Details of the capabilities and technical specifications of all equipment and network elements to be implemented in the civil infrastructures subject to coordination;
- A copy of the response sent by the owner or controller of the physical infrastructure and of any other negotiations, discussions, or mediations between the parties;
- Details of whether the physical infrastructure planned to be implemented is fully or partially financed with public funds and the amount;
- The cost sharing proposal, including information on the estimated costs of the standalone project or for the planned network deployment without coordination;
- The proposal of alternative solutions given by any of the parties;
- A copy of all communications between the parties involved in the dispute;
- Other documents deemed appropriate for the defence of their interests in the dispute;
- Submitted permit applications to the permission granting authorities, or a copy of the permits obtained, if applicable.

3.4 Procedure to be followed in the handling of disputes

3.4.1. Optional procedure prior to initiating the dispute

66. The tight timeframe allowed for a dispute resolution (resolution within one month of the date of the receipt of the dispute settlement request) as well as the responses of many stakeholders (interested in a timely resolution) stress the importance of ensuring that the DSB can settle the dispute in a timely manner. It is true that a delay in the settlement of a dispute in exceptional circumstances, such as insufficient information or documentation that is necessary to take a decision is possible (for example, via

suspension of the procedure, if foreseen by national law or rules of administrative procedure), but it is in the interest of all parties to avoid such delays.

67. The possibility of an optional informal mechanism[16] designed to aid in the dispute can be helpful to all involved parties. This is also recognised in the Connectivity Union Toolbox[17] of best practices, in Recommend 19: "*A prior/parallel conciliation mechanism with the aim to find a timely mutual agreement under guidance of the dispute settlement body might speed up the process considerably. If such an agreement cannot be reached, a formal binding decision of the dispute settlement body can be issued at the end of the standard dispute resolution procedure, within the deadline set in the Broadband Cost Reduction Directive*". This mediation can take place prior to or in parallel with (at an early stage) the formal dispute resolution process and is in any case optional (see recital 65 of the GIA).

68. For this reason, to improve information flow, BEREC proposes, as an option, that the DSB could define a contact point for civil works coordination (for example in the form of an email address), with the task of helping a potential party before it submits the dispute for resolution. It could provide information about the procedure to follow and the legal framework and start gathering the necessary data and background information about the civil work itself and the issues which might cause the request for dispute settlement. This also ensures that the relevant information is available prior to the dispute settlement request. By its nature, this optional mediation would take place after the request for coordination, in case any of the parties considers that the negotiation does not seem to be successful and a dispute is likely to happen.

69. In this role, the contact point in the DSB could – in accordance with Article 14 of the GIA- informally request information from the parties involved and explore both positions; if this cooperation succeeds, there are chances of settling the dispute in this preliminary period, without a formal procedure, as the mere mediation of the DSB could compel both parties to reach an agreement. Should this not succeed in avoiding the dispute, the DSB would then not start from zero, and the dispute would have a much better chance to be settled in the one-month timeframe.

70. As part of its procedures for initiating disputes, the DSB may also ensure all necessary information is provided before a dispute is considered "received". If these conditions are not met, the dispute should not be considered "received," and the one-month timeline should not begin or should be extended in line with Article 13(2) of the GIA (see next section on suspension rules). The DSBs could facilitate a mechanism for submitting disputes which could include formal online-intake-forms with mandatory fields, as well as public guidance on the assessment of submissions. Where these

[16] Examples of such mechanisms could be conciliation, mediation etc.
[17] The Connectivity Toolbox Recommendation https://digital-strategy.ec.europa.eu/en/policies/connectivity-toolbox

strict submissions are not met, the dispute would not be considered "received" by the DSB."

3.4.2. General procedural rules

71. It is important to note that a standardized dispute procedure for all DSBs is not possible, as the guidelines must align with national procedural rules. Indeed, the differences between the administrative procedural rules of the Member States could be significant, so it is considered appropriate to use general guidelines for the decision-making process.

72. Therefore, the DSB should consider, whenever possible, the national procedural rules during the handling of dispute resolution cases arising in relation to Article 5 of the GIA[18], as this would expedite the procedure. In this context, it is crucial to identify general mechanisms that comply with transparency obligations and national rules, and that are also suitable for speeding up procedures.

73. The following list of such general mechanisms can be useful for DSBs to consider:

- Burden of proof: it is essential to establish and communicate clear rules on the presentation and burden of proof to the disputing parties. Along with the preclusion rules described below, this will usually allow for a complete and reliable factual situation regarding the dispute to be quickly established. Only when a complete factual situation has been established will it be possible to issue a binding decision within one month.

  Therefore, the claimant must provide specific evidence that proves the reasonableness of the request and the absence of non-recoverable additional costs. All relevant facts must be submitted with the application. Additionally, they must immediately disclose confidential information or business secrets, provided these are needed for resolving the dispute, and this disclosure is proportionate and justified. The party refusing coordination must justify, where appropriate, the reasons for refusal in accordance with Article 5 of the GIA and explain the relevant circumstances, including confidential information. Non-compliance with these requirements may motivate the initiation of a dispute procedure which must be clearly analyzed by the DSB. In addition, any delay in providing the necessary information could work to the detriment of the party responsible for the timely provision of said information. Finally, it is up to the DSB to determine when the matter is ready for a decision.

- Transparency measures: despite the effort to obtain a quick decision, sufficient transparency measures must be observed. The DSB should ensure that both public participation if relevant and applicable according to national law, the rights of the parties to express their position are fully exercised. At the level of transparency, high

[18] The principles described here may be appropriate to utilize also under Article 6 of the GIA, where the DSB deems them appropriate.

standards have already been largely established in the national regulations of the Member States. In cases where national rules do not make the following procedural requirements mandatory, it is advisable for the national DSB to consider them. The following key procedural steps must be respected:

a. The right to be heard must be adequately guaranteed while at the same time protecting legitimate confidential information (e.g. operational and business secrets). It is important that the confidentiality requirement does not delay the process. With the assistance of the preclusion measures, however, tighter time limits can be set for the respective hearing deadlines (including other related deadlines such as summons deadlines, etc.).

b. Participation rights: The right to participate must be adequately respected, in accordance with applicable rules. This can be achieved, for example, by holding public oral hearings or through public consultations. It is also possible that, in certain cases, third parties may be involved, whose rights could be affected by the request for coordination. In such cases they should also be granted the right to be heard and to make representations. These rights can be safeguarded by early notification and the necessary participation.

- Third party rights**:** Depending on national administrative law, third parties whose rights are affected by the dispute may need to get the opportunity to get involved in the procedure by the DSBs. Sufficient rights to be heard and to make statements of third parties should be given. This can be achieved, if necessary, by an immediate summons of identified third parties upon receipt of the application. In addition, to hear affected third parties can not only protect the rights of third parties, but also help to clarify the actual situation.

- Publication**:** An important element of transparency, but also of targeted regulation, is the publication of the dispute decision (see recital 65 of the GIA). Awareness of the market about relevant decisions (with confidential information redacted where necessary) promotes transparency and ensures that the decisions can have a broader impact on the market despite their strict case-by-case nature.

- Independence of the DSB**:** Finally, the national DSBs must always ensure that they make their decisions independently in accordance with Article 14(2) of the GIA. Furthermore, it must be ensured that the DSBs are able to exercise their powers impartially, transparently and in a timely manner. This can only succeed if it is ensured by Member States that according to Article 14(7) of the GIA the DSBs have adequate technical, financial and human resources to carry out the tasks assigned to them.

- Factual basis for the proceeding: There are various types of incidents that may affect the processing of the dispute procedure. This is due in particular to the fact that it is the sole responsibility of the parties to the dispute to provide all necessary facts relevant to the decision. Inadequacies in this regard have an excessive impact on the DSBs decision-making timeframe. The DSB must consider the possible existence of causes for the suspension of the administrative procedure or other types

of incidents that may affect the processing of the dispute procedure. The following rules could be considered provided they exist in national procedures.

a. Preclusion[19]: the DSBs may apply preclusion rules in line with general rules for administrative procedures, where such rules exist. In particular, this may limit a parties right to produce new documents for the procedure due to the passage of time or the failure to meet established deadlines. This tool may be suitable to ensure efficiency and speed in administrative procedures, by avoiding unnecessary delays and ensuring that parties act within the stipulated timeframes.

b. Suspension or extension: BEREC considers that a variety of case specific circumstances can qualify as exceptional circumstances under Article 13(2) of the GIA and therefore may allow for the suspension[20] of the DSB proceeding or extension of the DSB deadlines to resolve a conflict in the context of the coordination of civil works. Examples of such circumstances may be:

    i. Lack of specification of the facts, reasons or unclear requests in the dispute: rectification of the dispute documents within a certain period, depending on each national regulation.

    ii. Existence of a pending appeal or claim: If there is an appeal or claim that could be resolved before continuing with the procedure, depending on the national regulation in this matter.

    iii. Need to gather additional reports or documentation: When additional information is required to decide.

    iv. The failure to provide non-confidential information.

    v. The failure to respond in a timely manner to additional requests for information coming from the DSB, not enabling it to gather all the information it requires.

    vi. Unusual complexity of the dispute.

    Under those, or similar circumstances, the DSBs may want to consider the possibility for suspension or extensions of the procedures.

    Such a suspension or extension needs to remain in the scope GIA that through its recital 64 already lists examples of exceptional circumstances justifying delays in dispute settlement and have to be compliant with general administrative law in the Member State.

[19] Preclusion rules determine until what time or under what conditions a party may submit new facts, evidence or objections during dispute settlement proceedings. It does not involve, for instance, a limited timeframe between dispute arising and 1st contact with the DSB.

[20] If provided for in national administrative law.

- Accumulation**:** If there are several related procedures, DSBs should consider to resolve those disputes together.
- Provisional order: The possibility to take provisional orders under the final decision to obtain a preliminary quick decision, in line with general principles of administrative procedures where relevant. BEREC considers this as an important means of protecting rights and to prevent creating facts by the parties involved (for example, suspension of civil works if it is necessary to assess during the dispute procedure whether the refusal to cooperate is correct). In accordance with Article 13 of the GIA, these measures could be considered exceptional circumstances due to the complexity of the dispute (recital 64), which requires extending the deadline.

3.4.3. Optional standard agreement

74. In February 2021, BEREC held a joint workshop with the cost reduction sub-group of COCOM's Connectivity Special Group as input to the development of the "Common Union Toolbox for Connectivity"[21] according to the EC Recommendation on this topic[22]. The report elaborated by this Connectivity Special Group, composed of representatives of each Member State and the Commission, establishes 18 best practices, related to "*Development of Guidelines for all Governance levels"* the following recommendation for expanding the right of access to existing physical infrastructure (not for planned civil works)*:*

    "Developing guidelines – including on pricing methodologies, standard agreement model(s), offer(s) based on fair and reasonable terms and conditions and/or other relevant documentation- as options to facilitate access and usage of physical infrastructure (including buildings and street furniture) and property owned or controlled by public bodies for the purpose of hosting network elements".

75. This recommendation sets up that "*Model agreements for access to physical infrastructure and guidelines on pricing methodologies can significantly alleviate the regulatory burden related to such negotiations, enhance predictability and increase the speed of access agreements and subsequent deployments"*.

76. While initially the main issues of dispute between the parties involved in the coordination of civil works may be the acceptance of the request for coordination on the planned civil works and the particular economic and technical conditions of such coordination, it may happen that after a first resolution of the dispute in relation to these issues, another dispute may arise during the negotiation of the coordination

[21] Connectivity Toolbox: Member States agree on best practices to boost timely development of 5G and fibre networks, 24.03.2021,https://digital-strategy.ec.europa.eu/en/news/connectivity-toolbox-member-states-agree-best-practices-boost-timely-deployment-5g-and-fibre

[22] Commission Recommendation (EU) 2020/1307 of 18 September 2020 on a common Union toolbox for reducing the cost of deploying very high capacity networks and ensuring timely and investment-friendly access to 5G radio spectrum, to foster connectivity in support of economic recovery from the COVID-19 crisis in the Union, see https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020H1307

agreement. This is often the case when a wholesale service is made available to operators for the first time.

77. For this reason, BEREC considers that it could be useful in these guidelines to get inspiration from the provisions of the above-mentioned Connectivity Toolbox Best Practice for access to existing physical infrastructure, to provide transparency during the negotiation and signing of civil works coordination agreements, speed up network deployments on the physical infrastructure to be coordinated and avoid disputes in the final phase of these negotiations.

78. BEREC proposes as an option to establish guidelines on standard agreement models that the DSBs or any other relevant competent administrative body could define and the operators and entities that own the physical infrastructure could adopt on a voluntary basis. Such a model can be found in Annex 4: Optional standard agreement model.

4. The criteria for ensuring sufficient capacity to accommodate foreseeable future reasonable needs if coordination of civil works is refused pursuant to Article 5(4) of the GIA

79. This section deals with the criteria to be used to determine sufficient capacity to be provided if a party to a request for co-ordination of civil works refuses such a request according to article 5(4) of the GIA. The methodology includes the following considerations:
    - estimation of the number of end-users and their reasonable needs (taking into account for instance potential multifibre for businesses); based on the number of households as well as on the number of businesses in the area;
    - estimation of the volume of fibre necessary to cover the above requirements;
    - estimation of the physical infrastructure needed to accommodate such fibre;
    - performing the above estimations, consideration needs to be given not just to the needs of the requesting party but also the addition of other potential operators who have not yet expressed an interest in deploying infrastructure in the area.
    - examples of relevant models and formulas are suggested, to deduce the volume of ducts, or the load to be borne by poles.

4.1 Introduction

80. This section discusses the principles that should apply when assessing what physical infrastructure capacity should be installed in order to accommodate foreseeable future reasonable needs for third-party access in case a coordination request is considered unreasonable according to the specific circumstances provided for in Article 5(4) of GIA. Annex 2: Examples and illustrations for ensuring sufficient capacity for foreseeable needs in the case of underground works of this Guidance also provides illustrative examples of how a mathematical formula could be used as a basis in assessing possible future reasonable needs. It should be noted that such examples have been provided to assist in illustrating how the principles set out in this Guidance could apply, the actual means of applying these principles needs to be in accordance with the requirements of the GIA, while also taking national circumstances into account.

81. As described in Annex 2: Examples and illustrations for ensuring sufficient capacity for foreseeable needs in the case of underground works, BEREC assumed that most cases requiring coordination of civil engineering works would be underground works, and the rest of the section is written based on this assumption. In the case, however, of aerial work coordination, most of the principles detailed below remain valid (for instance in the estimation of the number of fibre lines required). The main differences in this situation concern the last step of the reasoning: instead of estimating the size and number of ducts required to host the volume of fibre which has been deemed necessary, the refusing party will have to take into account, and address, the possible effects on the loading of such poles as a result of the installation of additional cables and equipment.

4.2 Scope and focus of Article 5(4) of the GIA

82. As set out in Article 5 of the GIA and noted in recital 38, in some cases, in particular for deployments in rural, remote or scarcely populated areas, the obligation to coordinate civil works might put at risk the financial viability of such deployments and eventually disincentivise investments carried out under market terms.

83. Under the specific circumstances provided for in Article 5(4) of the GIA, a request to coordinate civil works may be considered unreasonable. In considering where this may be the case, Article 5(4) and recital 38 of the GIA refer in particular to Article 22 of the EECC, which addresses geographical surveys of network deployments in the designated areas. A designated area being a geographical area with clear territorial boundaries for which it has been determined that, for the duration of a relevant period to forecast the reach of broadband networks, no undertaking or public authority has deployed or is planning to deploy a VHCN or significantly upgrade or extend its network to VHCN performance. Article 22(3) of the EECC provides that for such designated

areas the relevant authorities may invite undertakings and public authorities to declare their intention to deploy such networks in this area over the duration of the relevant forecast period. Where such an invitation results in a declaration to make such a deployment, relevant authorities may require other undertakings and public authorities to declare any similar such intentions. In such cases, relevant authorities shall inform any undertaking or public authority expressing its interest whether the designated area is covered or likely to be covered by networks with the above characteristics. In such circumstances, or similarly where a public consultation was conducted in applying Union State aid rules, a request made to coordinate civil works may be considered unreasonable where the requesting party failed to express interest at the most recent occasion of invitations or public consultations with respect to such deployments.

84. Article 5(4) of the GIA provides that where the above conditions apply, the undertaking providing, or authorised to provide, public electronic communications networks that refused the coordination of civil works shall deploy physical infrastructure with sufficient capacity to accommodate possible future reasonable needs for third-party access. Recital 38 describes that in doing so, the party refusing the request to coordinate shall take into account the capacity requirements expressed by the undertaking requesting coordination of civil works and these Guidelines provided by BEREC, made in close cooperation with the Commission.

85. From the above, the following points are noted with respect to the scope of the application of Article 5(4) of the GIA.

86. While a request to coordinate civil works may be considered unreasonable for reasons other than where the conditions outlined above apply, it is only when these specific conditions apply that the requirement for the refusing party to deploy sufficient capacity to accommodate possible future reasonable needs, as set out in Article 5(4) of the GIA, is engaged where the request is unreasonable. It should be noted that the requirements for the deployment of such sufficient capacity are only engaged when the requesting and refusing parties are both undertakings that provide, or are authorised to provide, public electronic communications networks and in the limited circumstances provided for in Article 5(4). As noted above, the requirement for the deployment of such capacity under Article 5(4) of the GIA can also be engaged where a public consultation was conducted in applying Union State aid rules. If State aid is actually deployed in such circumstances, then the guidance discussed below in paragraphs 95 and 96 is applicable.

87. The objectives of the relevant provisions in Article 5(4) are to facilitate the rollout of VHCNs in a manner that does not disincentives those parties who intend to deploy networks in areas for which there has been no commercial interest expressed by other parties. As such, the requirement to deploy additional capacity by the party that refuses the request for the coordination of civil works should not be disproportionate so as to have negative effects on possible investment decisions.

88. Nonetheless, it is reasonable to consider not just the needs of the requesting party but also the addition of other potential operators who have not yet expressed an interest in deploying infrastructure in the designated area.

89. When considering what capacity needs to be provided for the above parties, the capacity needs to meet possible future reasonable needs. Such needs may be influenced, among others, (i) by the characteristic of the area e.g. the number of residential or business premises (taking into account that business premises sometimes require more capacity for one premise) that are currently in the proximity (for example within a certain radius) of the infrastructure to be deployed and such premises that are planned to be built or that can be easily assumed will be built within that proximity; (ii) the number of performant existing or credibly planned networks in a given area, including based on the information gathered under the circumstances referred to in Article 5 (4)(a) of the GIA.[23]

90. One mechanism in identifying the number of units to be built under the aforementioned scenario (i) is by reference to where planning permission has been granted that specifies the number of such units. The additional physical infrastructure with capacity to be deployed to serve such new units should be determined based on circumstances such as the technology predominantly used for comparable projects and the type of end-users (i.e. households, businesses, mobile base stations etc.) present or planned in the area.

91. The refusing party should be able to provide sufficient capacity not just for their requirements but in addition sufficient physical infrastructure capacity for all parties referred to above to serve existing and new premises within the proximity of the infrastructure to be deployed. It is assumed that the requirements of the requesting party will either be aligned with or be a sub-set of the number of such premises.

92. These requirements for installing sufficient capacity are without prejudice to the right of Member States to reserve capacity for electronic communications networks even in the absence of specific requests (recital 37).

4.3 Engagement between the parties

93. All parties should act in good faith in their dealings, with the refusing party ensuring timely confirmation of its guarantee to meet the requirements of additional capacity as part of the infrastructure that it plans to deploy.

94. There should be sufficient transparency from the refusing party on key milestone dates regarding when the infrastructure is planned to be deployed. These milestones should

[23] Recital 173 of the European Commission Guidelines on State aid for broadband networks (2023/C 36/01). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52023XC0131%2801%29

be provided with sufficient granularity, including with respect to geographical areas, to allow third parties to plan their utilisation of the capacity to be deployed. Information on milestone dates, and any changes to them, should be shared with the parties for whom there has been a refusal to coordinate civil works or those parties who have a demonstrable intention to avail of the capacity to be deployed, in a non-discriminatory manner.

4.4 State aid for broadband networks

95. As noted above, the requirement to deploy additional capacity is also engaged in the context of public consultations in applying EU state aid rules. Recital 130 of the Commission Guidelines on State aid for broadband networks may be informative in considering what additional capacity should be deployed in such scenarios. According to this recital, a state-funded network must offer effective access under fair and non-discriminatory conditions to undertakings. The recital notes that this may imply the upgrade and increased capacity of existing infrastructure, where necessary, and the deployment of sufficient new infrastructure (for instance, ducts large enough to cater for a sufficient number of networks, and different network topologies). Recital 135 of the above guidelines also states that if State aid is granted for new infrastructure, the infrastructure must be large enough to meet access seekers' current and evolving demand. This is elaborated on in footnote 94 associated with that recital, where it is described that for instance and depending on the specificity of the network, where new ducts are built to host fibre, they should cater for at least three independent fibre cables each hosting several fibres and therefore able to serve several undertakings. Footnote 94 also describes that where existing infrastructure has capacity constraints and cannot provide access to at least three independent fibre cables, based on the principle first-come-first-served, the operator of the State-funded network should make available at least 50% of the capacity (in particular dark fibres) to access seekers.

96. It should be noted however, that recital 38 of the GIA makes clear that the requirements with respect to deploying additional capacity when a request to coordinate civil works is refused are without prejudice to the rules and conditions attached to the assignment of public funds and the application of State aid rules. The application of the requirements of GIA in the context of physical infrastructure capacity and State aid must be consistent, not only with GIA itself, but also with the General Block Exemption Regulation[24] and the Commission Guidelines on State aid for broadband networks.

[24] General Block Exemption Regulation No 994/98 as further amended.

4.5 Costs

97. It should also be noted that the apportioning of costs, as discussed in Section 1 above, only applies when coordination of civil works actually takes place and not when the requirement to deploy additional capacity under Article 5(4) in the case of a refusal to coordinate is triggered. The conditions (including price) for access to the infrastructure thus built, allowing also to recover the costs incurred, are subject to Article 3 of the GIA and the associated Commission guidance on that Article.

4.6 Capacity to be installed

98. A key factor with respect to costs and timelines in terms of design, permit-granting and deployment of infrastructure will be the required excavation and reinstatement activities relating to civil works. In comparison to the effect on costs and timelines for all parties involved, deploying ducts of larger diameter than originally planned by the refusing party to accommodate the needs of third parties will not, in general, be significant in relative terms.

99. The refusing party should assess that its needs and the needs of other potential parties can reasonably be accommodated through the use of ducts originally planned to be deployed or through larger ducts (for example ducts of 100mm internal diameter) when appropriate. Where the use of larger ducts alone would not meet the needs of the third parties or be practical in terms of allowing all parties to reasonably deploy and maintain their sub-ducts or cables, then the refusing party should deploy an additional duct or ducts for use by the third parties.

100. The refusing party is free to decide how additional capacity is deployed but in doing so should ensure that the principles set out in these guidelines are adhered to. This can be achieved by way of reserving sub ducts or sufficient space within the same duct or the deployment of additional duct(s).

101. The refusing party shall also take into account the space requirements within chambers (manholes) to be deployed and demonstrate that sufficient capacity will be provided for meeting demands for housing equipment (such as fibre splitters and distribution points) for the parties referred to above.

102. Where the refusing party is planning to deploy cables on aerial routes then the refusing party should not deploy its cables or equipment in an unjustified manner that may frustrate third parties attempts to deploy their own cables or equipment or place unreasonable conditions on such parties with respect to such installation. Where new poles are to be deployed or where poles are to be replaced then the refusing party should take into account, and address, the possible effects on the loading of such poles as a result of the installation of its cables and equipment and that of the third parties referred to above. The refusing party shall permit third parties to use the same

poles that it is using for its own use, for which it owns or controls, subject to Article 3 of the GIA and the associated upcoming Commission guidance on that Article.

103. While an NRA or DSB may determine the means by which available space in ducts should be determined, it is recommended that in the absence of such requirements or guidance by an NRA or DSB, the refusing party assesses whether foreseeable future reasonable needs for third-party access will be met through the use of a mathematical formula for calculating appropriate space in ducts. The ECC report on Defining and Calculating Availability of Space in Cable Ducts[25] can provide useful guidance in this regard in identifying best practice for input to such calculations. In demonstrating that there is sufficient capacity, the refusing party may take into account, in conjunction with the principles set out in these Guidelines, the following characteristics, as discussed in the ECC report:

- the internal diameter of the ducts;
- the external diameter of the sub-ducts within ducts and/or the external diameter of cables installed directly in ducts without the use of sub-ducts;
- the length of the relevant duct segments;
- the shape memory effect of cables and sub-ducts caused by the way in which they have been stored and transported; and
- the maximum fill factor for sub-ducts within ducts and/or for cables installed directly in ducts without the use of sub-ducts;

104. For purely illustrative purposes, two examples are included in Annex 2; an example of a formula (taken from Chapter 6.14 of the above ECC report) for assessing the availability of space for cables within ducts and an example of assessing possible future reasonable needs of physical infrastructure in a targeted area that draws upon the principles set out in these Guidelines.

4.7 Network scope of Guidelines

105. The principles set out in these Guidelines should apply regardless of where in the network, e.g. access or core, the refusing party is planning on deploying infrastructure, providing that the conditions necessary for the engagement for the requirement to deploy additional capacity as set out in Article 5(4) in the GIA are met.

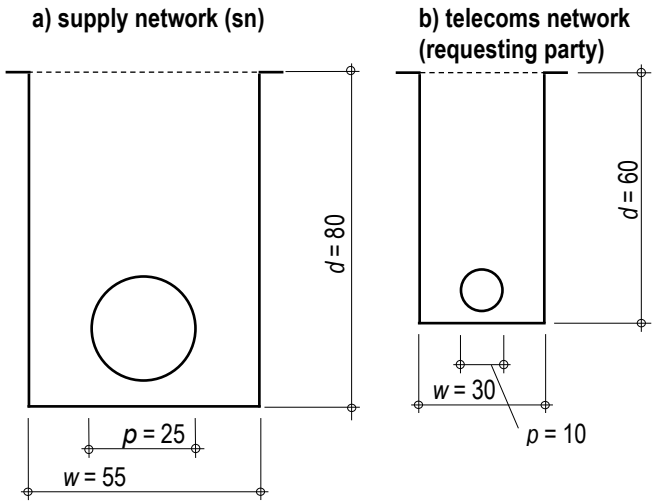
[25] ECC Report 354, Defining and Calculating Availability of Space in Cable Ducts, approved 28 November 2023.

Annex 1: Examples and illustrations for cost-apportioning

106. In the annex, the methods described in section 1 are illustrated by calculating an exemplary situation of two parties coordinating their civil works.

107. Assume the following situation where the trenches of a supply/utility network (a) and a telecommunications network (b) in case of self-deployment without any coordination look like displayed in Figure 3. In following diagrams the term “supply network” could also be an ECN provider to whom a request to coordinate has been made:

Figure 3:

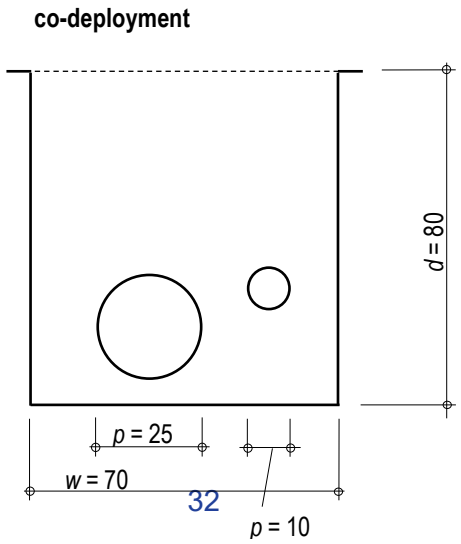


with

p being the pipe diameter,
w being the trench width, and
d being the trench depth.

If those two networks were to coordinate their deployment, the commonly used trench would look like as displayed in Figure 4:

Figure 4:



108. Table 1 shows the resulting parameters and civil works costs. In this example, it is assumed that costs per cubic metre of trench volume are the same regardless of the trench depth. This is the case, for instance, when the surface is not paved. The civil works costs are exemplary values used for further calculations.

Table 1: Parameters for example calculations

parameters	**co-deployment**	**separate deployment**		
		supply network	**telecoms network**	**total**
Total minimum distance to trench edge or other pipes	35 cm	30 cm	20 cm	
Pipe width	35 cm	25 cm	10 cm	35 cm
Trench width (minimum width)	70 cm	55 cm	30 cm	85 cm
Trench depth	80 cm	80 cm	60 cm	
Trench cross-section area (*A*) $A = w \times d$	5,600 cm²	4,400 cm²	1,800 cm²	6,200 cm²
Civil works costs	€ 280 / m	€ 220 / m	€ 90 / m	€ 310 / m

109. The results shown in the tables below have been rounded to whole numbers (euro/percent) for reasons of clarity; parameters that are not necessary for the example calculations but helpful for a better understanding are in *italics*.

Cost-apportioning based on the capacity of the infrastructure laid into the trench

110. Determining the cost shares based on the capacity of the infrastructure laid into the trench is a more basic method where only the number of deployed ducts/cables needs to be known and no further information on trench dimensions or stand-alone costs is necessary. The method is suitable when the number of deployed infrastructures by both parties is rather similar. In this method, the cost share of a party *i* is calculated by multiplying total costs under coordination with the ratio of that party's number of deployed ducts/cables by the total number of infrastructure deployed.

$$CS_i = \frac{N_i}{N_{tot}} \times C_{tot}$$

111. In our example, where each of the two parties seeks to deploy only one duct (see Figure 3), this method is equivalent to an equal split, as both parties deploy the same number of ducts (such that the ratio is 50%).

Cost-apportioning based on the hypothetical stand-alone costs (Shapley value)

112. In this method, the percentage of the costs to be apportioned to each party is calculated based on the ratio between the parties' stand-alone costs. The cost share of a party *i* is calculated by multiplying total costs under coordination by a percentage share determined by dividing the party's individual stand-alone costs by the sum of the individual stand-alone costs of all parties involved.

$$CS_i = \frac{C_i}{C_n + C_{rp}} \times C_{tot}$$

113. If applied to our example, costs apportioned using this method and the respective parameters are shown in Table 2:

Table 2: Apportioning the costs using the stand-alone costs

Parameter	Co-deployment	Supply network	Telecoms network	Total
Stand-alone costs		€ 220 / m	€ 90 / m	€ 310 / m
Percentage share (p_i) using the stand-alone costs $p_i = C_i / (C_n+C_{rp})$		71 %	29 %	100 %
Absolute costs for co-deployment $CS_i = C_{tot} \times p_i$	€ 280 / m	€ 199 / m	€ 81 / m	

114. This method directly considers any differences in stand-alone costs allowing for the benefit of coordination being split accordingly. A possible disadvantage in practice, however, may be that the data on stand-alone costs are not always available and therefore have to be estimated. This method therefore has its limitations, in particular when these costs cannot be estimated reliably or can only be estimated with a great deal of effort, or when the parties involved do not agree on the level of the costs. In those cases, cost-apportioning based on trench dimensions is an alternative.

Cost-apportioning based on trench dimensions

115. Determining the cost shares based on trench dimensions is a suitable method whenever both parties know about their trench dimension if they were to deploy without coordinating. (Sometimes, these data are easier to obtain than data on a possible stand-alone cost, see below.) In this method, the cost share of a party *i* is calculated by multiplying total costs under coordination by a percentage share determined by

dividing the cross-section area of the trench for the party's project by the sum of the cross-section areas of the trenches of all parties involved.

$$CS_i = \frac{A_i}{A_n + A_{rp}} \times C_{tot}$$

116. If applied to our example, costs apportioned using this method and the respective parameters are shown in Table 3:

Table 3: Apportioning the costs based on trench dimensions

Parameter	Co-deployment	Supply network	Telecoms network	Total
Trench width (w) Trench depth (d)	70 cm 80 cm	55 cm 80 cm	30 cm 60 cm	85 cm
Trench cross-section area (A) $A = w \times d$	5,600 cm²	4,400 cm²	1,800 cm²	6,200 cm²
Percentage share (p_i) using the trench cross-section area $p_i = A_i / (A_n + A_{rp})$		71 %	29 %	100 %
Absolute costs for co-deployment $CS_i = C_{tot} \times p_i$	€ 280 / m	€ 199 / m	€ 81 / m	
For information: stand-alone costs		*€ 220 / m*	*€ 90 / m*	*€ 310 / m*

117. Note that the absolute cost shares CS_i are the same whether they are calculated based on standalone costs (see Cost-apportioning based on the hypothetical stand-alone costs (Shapley value) or based on trench dimensions (see Cost-apportioning based on trench dimensions). This is because both methods, in principle, rely on a Shapley-value, either by using the cost driver, i.e. the cross-section area of the trench, or the standalone costs reflecting it indirectly. Both methods rely on each party's contribution to the overall outcome.

118. This method can be used for both simple and more complex cases, for example when:

- The parties' trench cross-section areas or costs in the case of separate deployment are comparable and the non-directly attributable costs can therefore be apportioned equally.
- The trench depths are the same but the trench widths are different and it would only be possible to apportion the non-directly attributable costs using the trench widths.

119. In the case of paved surfaces, the civil works costs for the surface (wearing, binder and base courses) are comparatively higher than for the trench underneath; in the case of separate deployment with different trench depths, this favours pipes nearer the

surface rather than pipes deeper down. This can be resolved by apportioning the costs for the surface and for the trench underneath separately based on the cross-section areas using this method. If the surface has the same thickness for all the parties, the costs for the surface can also be apportioned based on the width of the trench.

Annex 2: Examples and illustrations for ensuring sufficient capacity for foreseeable needs in the case of underground works

120. As described in Section 4 of these Guidelines, this Annex provides illustrative examples of how a mathematical formula could be used as a basis in assessing possible future reasonable needs. It should be noted that such examples have been provided to assist in illustrating how the principles set out in these Guidelines could apply, the actual means of applying these principles needs to be in accordance with the requirements of the GIA, while taking national circumstances into account.

121. The ECC report on Defining and Calculating Availability of Space in Cable Ducts[26] can provide useful guidance in identifying best practice in assessing the availability of space for cables within ducts. For purely illustrative purposes, the following example is taken from the above ECC report (Chapter 6.14).

122. One of the formulas used in ECC report is as follows:

Dpipe = K* x $\sqrt{d1^2 + d2^2 + \cdots + dn^2}$

The following parameters are used in the assessment:

a. Dpipe: the internal diameter of the pipe in millimetres required for the insertion of the cables within the duct;

b. d1, d2, …., dn: represent the various external diameters in millimetres of the n cables installed or to be installed in the duct;

c. K*: a factor, the value of which shall be chosen from the following table:

Table 4: K*: a factor

Length of hose between shafts	Number of cables in Pipe	Coefficient K Pipe inner diameter < 50 mm	Coefficient K Inner diameter of pipe > 50 mm
L<50 m	up to 3	1.65	1.60
	4 and more	1.70	1.65
L>50 m	up to 3	1.75	1.70
	4 and more	1.80	1.75

[26] ECC Report 354, Defining and Calculating Availability of Space in Cable Ducts, approved 28 November 2023.

123. The following is a worked example of the application of the above formula:

Input to calculations:

a. Duct with internal diameter of 100 mm;

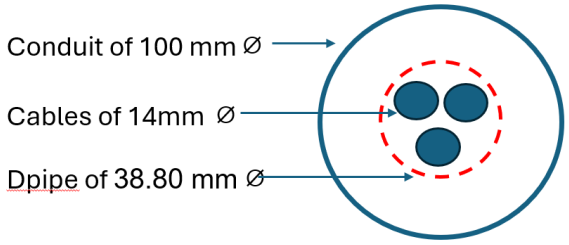
b. 3 cables with diameter of 14 mm;

c. Length of duct between chambers: < 50m

d. Coefficient K is therefore 1.6

124. Calculated values:

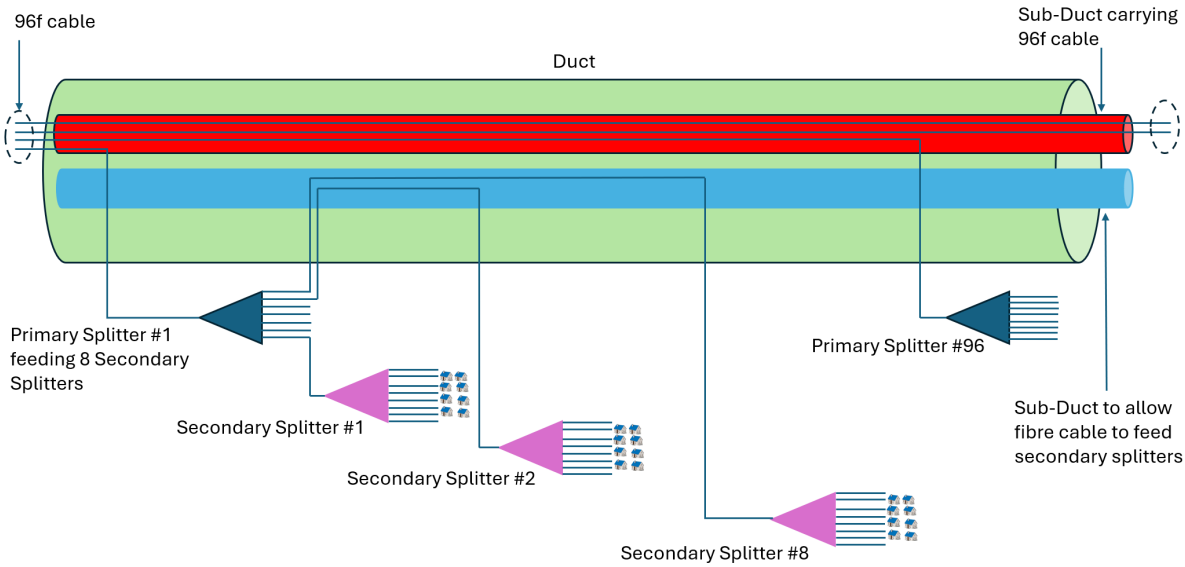
a. Dpipe ($1.60 \times \sqrt{14^2 + 14^2 + 14^2}$) : 38.80 mm



125. Taking the principles set out in this guidance document and the above illustrative example for use of a formula the following worked example is provided. It should be noted that approaches to technological deployment and network topology can differ greatly so this example should only be considered in this illustrative context.

126. In the example provided below an approach toward splitting individual fibre strands in the PON has been taken through the use of a two-stage split of an initial 1:8 split, followed by a subsequent 1:8 split. Thus allowing for small groups of premises to be served along the infrastructure route at different locations by the same initial fibre strand. This has been included in the example to illustrate where additional cables and/or sub-ducts are needed for the route beyond the requirements arising from the immediate capacity constraints due to the fibre cable strand count and fibre split ratio. Such a scenario is illustrated by the following diagram:

Figure 5: Scenario- splitting individual fibre strands in the PON has been taken through the use of a two-stage split of an initial 1:8 split, followed by a subsequent 1:8 split



127. Input to calculations:

a. Duct with internal diameter: 50 mm;

b. Sub-duct external diameter: 14 mm;

c. Length of duct between chambers: < 50m;

d. Potential number of existing premises to be served within a targeted area (for example within a radius of 200 m): 7000;

e. Potential number of premises to be served within the targeted area for which planning permission has been granted: 1500;

f. Fibre technology: point to multipoint PON;

g. Number of fibre strands in each fibre cable: 96;

h. Split ratio for point to multipoint PON: 2-stage split of 1:8 and 1:8 (overall split ratio of 1:64);

The internal diameter of the duct (50mm) is considered to be the Dpipe for the purpose of the following calculations.

128. Calculated values:

Table 5: Calculated values

Parameter	Calculation	Value
Total number of premises to be served	7000 + 1500	8500
Number of premises that can be served by one 96 fibre strand cable	96 fibre strands each serving 1 primary splitter with a 1:8 split, the output of each primary splitter serves eight 1:8 secondary splitters, giving an overall split ration of 1:64. 96*64 = 6144	6144
Number of fibre cables to serve each 1:64 splitter	8500/6144 = 1.38 cables.	2
Additional sub-ducts for use along the route to allow secondary 1:8 splitters to be served from each 1:8 primary splitter	Additional sub-duct to house fibre cable containing multiple fibre strands to serve secondary splitters from primary splitters.	1
Total number of cables and therefore sub-ducts to serve premises by one operator.	Each 14mm sub-duct to accommodate one fibre cable with each cable containing multiple fibre strands.	3
Number of operators to be considered:	(i) refusing Party, (ii) requesting Party and (iii) 1 alternative access network provider.	3
Total number of sub-ducts to be accommodated	Sub-ducts per operator * number of operators	9
Maximum number of sub-ducts that can be accommodated in a 50mm Dpipe.	Dpipe: 1.60 x $\sqrt{14^2 + 14^2 + 14^2 + 14^2 + 14^2}$ = 50.087 mm	5
Total number of ducts with 50mm internal diameter	Two 50mm ducts, the first duct containing 5 sub-ducts and the second duct containing 4 sub-ducts.	2

129. As an alternative to the refusing party installing two 50mm ducts, a single duct of a larger internal diameter could instead be deployed. For example, based on the parameters used for the purposes of the above illustrative example, a 75mm duct could accommodate up to 11 individual 14mm sub-ducts ($74.29\text{mm} = 1.60 \text{ x } \sqrt{(14^2) * 11}$).

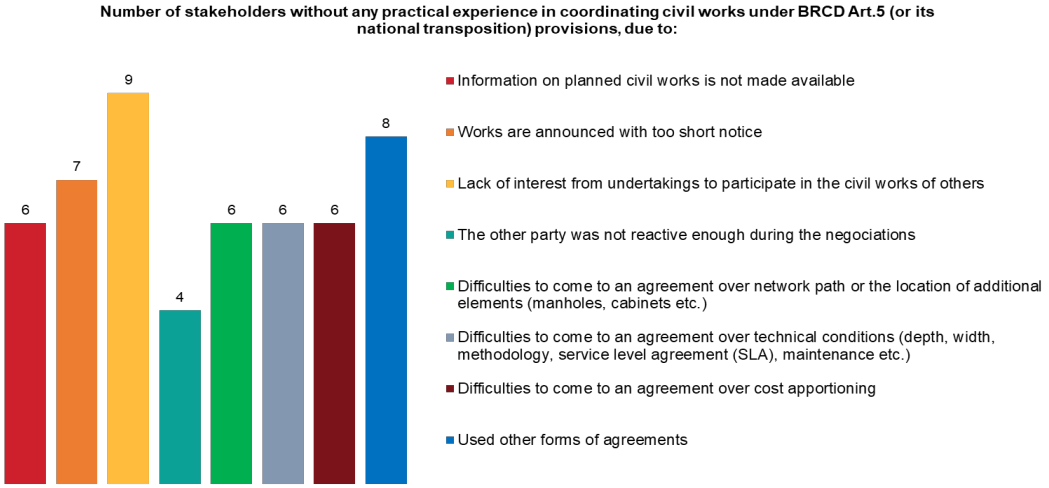
Annex 3: Relevant experience from DSBs and stakeholders

130. Twenty-nine NRAs have responded to the BEREC questionnaire, of which 26 have been designated as DSBs. Only the NRAs designated as DSBs in Finland, the Czech Republic, Denmark, Germany, Slovenia and Austria reported having experience in resolving disputes in civil works coordination. However, overall experience of DSBs is limited (between 1 and 5 disputes resolutions).

131. The responses obtained from the stakeholders argue in the same direction. Only six stakeholders declare to have practical experience in approaching the DSB for disputes on civil works coordination. It is interesting to point out the Italian Association of Internet Providers response, because it states that it has had cases of civil coordination works in AGCOM resolved through agreements between operators without the need for a formal resolution.

132. In line with the results already obtained in the study supporting the impact assessment of the EC proposal for the GIA Regulation (Evaluation Report[27] - section 2.3 Co-ordination of civil works (Article 5)), most stakeholders report a lack of interest in coordination civil works due to insufficient notice for civil works, preference for alternative agreements or limited impact on their operations. This figure shows other causes that were most commonly mentioned by stakeholders:

Figure 6: Number of stakeholders without any practical experience in coordinating civil works under BCRD



[27] European Commission, Directorate-General for Communications Networks, Content and Technology, Godlovitch, I., Kroon, P., Strube Martins, S. et al., *Support study associated with the review of the Broadband Cost Reduction Directive– Evaluation report*, Publications Office of the European Union, 2023, https://op.europa.eu/en/publication-detail/-/publication/fe50cedf-b718-11ed-8912-01aa75ed71a1/language-en/fe50cedf-b718-11ed-8912-01aa75ed71a1/language-en

133. This lack of experience of the NRAs that have been designated DSBs and the lack of motivation of stakeholders to make use of civil works coordination for their electronic communication network deployments presents a significant challenge in determining guidelines on the criteria that the DSB should follow when settling disputes falling within the scope of Article 5 of the GIA.

Annex 4: Optional standard agreement model

134. The following non-exhaustive list addresses some of the issues that could be covered by standard agreement model(s) for coordination on civil works:

1. Object and scope of the agreement.
2. Regulatory framework.
3. Civil works to be coordinated.
4. Obligations that each party assumes.
5. Economic compensation, billing and payments.
6. Payment guarantees mechanisms for both parties.
7. Jurisdiction and binding dispute resolution: in particular, determination of criteria for resolving conflicts between the parties on the interpretation, modification or execution of the agreement, providing for the possibility of recourse to the DSB if the conflict cannot be resolved by mutual agreement between the parties within a certain period.
8. Responsibilities of each party in the performance of the obligations arising from the agreement.
9. Right to information: each party shall provide the other party, under the obligation of confidentiality, with the information necessary for the effective performance of the subject matter of the contract.
10. Validity of the agreement and causes for amendment, revision and termination of the agreement.
11. Communications between the parties (addresses for notifications and requests).
12. Safeguarding of the rights of the parties, ownership of physical infrastructure, intellectual and industrial property.

Annex 5: Abbreviations

BCRD	Broadband Cost Reduction Directive
BEREC	Body of European Regulators for Electronic Communications
DSB	Dispute Settlement Body
ECN	Electronic communication network
EECC	European Electronic Communications Code
GIA	Gigabit Infrastructure Act
NRA	National Regulatory Authority
VHCN	Very High Capacity Network