

# Study on Implementation and monitoring of measures under Directive 61/2014

## Cost Reduction Directive

SMART 2015/0066



### EXECUTIVE SUMMARY

A study prepared for the European Commission  
DG Communications Networks, Content & Technology  
by:

wik  
CONSULT

VVA  
CONSULTING

**This study was carried out for the European Commission by**



WIK-Consult GmbH  
Rhöndorfer Str. 68  
53604 Bad Honnef,  
Germany

Valdani Vicari & Associati S.r.l.  
Via Torino, 61  
20123 Milano,  
Italy

Authors: Ilsa Godlovitch, Thomas Plueckebaum, Peter Kroon,  
Matthias Wissner (WIK-Consult)  
Olga Batura (Ecorys)  
Pierre Hausemer, Mate Vincze (VVA Consulting)

Contributors: Caroline Held, Saskja Schäfer (WIK-Consult)  
Ricardas Juskevicius (VVA Consulting)

## **Internal identification**

Contract number: 2018.2267  
SMART 2015/0066

## **DISCLAIMER**

By the European Commission, Directorate-General of Communications Networks, Content & Technology.

The information and views set out in this publication are those of the author(s) and do not necessarily reflect the official opinion of the Commission. The Commission does not guarantee the accuracy of the data included in this study. Neither the Commission nor any person acting on the Commission's behalf may be held responsible for the use which may be made of the information contained therein.

ISBN 978-92-79-81819-6

doi: 10.2759/746623

© European Union, 2018. All rights reserved. Certain parts are licensed under conditions to the EU.

Reproduction is authorised provided the source is acknowledged.

## **Abstract**

The Broadband Cost Reduction Directive (BB CRD) of 2014 aims to reduce the costs of deploying high-speed broadband networks through facilitating shared use and coordinated deployment of physical infrastructure within the electronic communications sector and across other sectors such as energy, transport and water, streamlining permit granting procedures and facilitating access to end users' premises.

In this study, we define a methodology and gather data to assess the current status of implementation of the Directive, its impact on market outcomes and progress made towards achieving its objectives since the date of application of the Directive in July 2016. We also identify best practice examples of access and co-deployment regimes as well as standards for in-building infrastructure, based on case studies and interviews.

As little time has passed since the Directive's transposition, no firm conclusions can be drawn concerning the impact of the Directive on reducing the cost of broadband deployment or achieving more ambitious targets in line with the Gigabit society.

However, evidence from countries which previously applied provisions similar to those in the BB CRD, indicate that cross-sectoral collaboration can enable significant cost reductions, supporting the more widespread deployment of very high capacity broadband. Achieving these benefits may however require a more pro-active approach of Member States to implementing the provisions of the BB CRD.



## 0 Executive Summary

### 0.1 Context for the study

The Broadband Cost Reduction Directive of 2014 (BB CRD) aims to reduce the costs of deploying high-speed broadband networks through facilitating shared use and coordinated deployment of physical infrastructure within the electronic communications sector and across other sectors such as energy, transport and water, streamlining permit granting procedures and facilitating access to end users' premises.

Measures to support high-speed broadband deployment are particularly relevant in view of research,<sup>1</sup> which suggests that ultrafast broadband (potentially at speeds of 1Gbit/s and above) might unlock innovation and foster the development of high definition video, virtual and augmented reality and cloud computing. High-speed fixed broadband networks will also be needed to provide the speeds and low latency required for the development of 5G networks, which are key for upcoming IoT applications. Studies such as the ongoing ENERGISE project also confirm the value of electronic communications in digitising energy.

In this study we (i) define a methodology and collect data for the monitoring of the implementation and application of the Broadband Cost Reduction Directive, the impact of the measures it provides and the progress towards achieving its objectives, with a view to supporting the implementation report to be presented by the Commission by 1 July 2018 in accordance with Article 12 of the Directive; (ii) identify best practices and make recommendations concerning elements which would support cross-sector infrastructure sharing and co-deployment; and (iii) analyse standardization efforts in the field of in-building infrastructure as well as broadband-ready labels.

The data covers 24 EU member states. Data was gathered through targeted questionnaires distributed with the aid of EU regulatory bodies and trade associations representing electronic communications, utility and transport sectors. The analysis of business models and business practice is based on 10 detailed case studies and interviews with more than 30 EU and national bodies. An analysis of standardisation efforts and further case studies are used to support the analysis concerning in-building infrastructure and broadband-ready labels.

A summary of the main findings follows.

---

<sup>1</sup> See Regulatory, in particular access regimes for network investment in Europe SMART 2015/0002 and expert panel in the context of the support for the Impact Assessment accompanying the review of the EU Framework for electronic communications SMART 2015/0005

## 0.2 Proposed monitoring indicators

When the BB CRD was originally proposed, it was suggested in the accompanying Impact Assessment<sup>2</sup> that it could contribute to reducing the cost of rolling out high-speed broadband networks by 25%. This would be achieved through (i) greater re-use of existing infrastructure (targeted at 25%); (ii) more use of co-deployment (targeted at 10%); and (iii) ensuring that buildings are made broadband-ready (with a target that 5% of newly deployed networks should reach multi-dwelling units which are high-speed ready).

In developing indicators for monitoring, we have built on these targets to enable an assessment of the degree to which implementation of the Directive could support achievement of the underlying objectives. This is particularly important in view of the fact that, contrary to the Commission's initial proposal which was for a directly applicable Regulation, the measure eventually adopted was a Directive, which provides significant scope for both delays and differences in application, including through optional measures as well as exceptions.

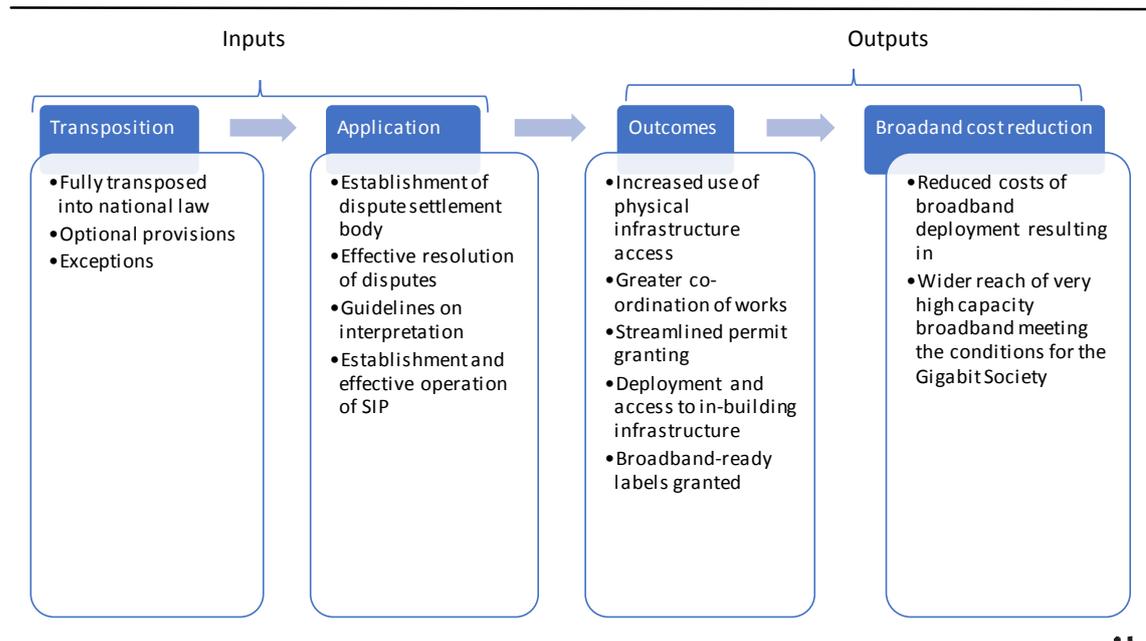
The structure of the indicators is shown in the diagram below. Transposition aims to assess the degree to which the BB CRD is in force and whether optional provisions or exceptions have been used. Application monitors the degree to which dispute settlement bodies have been established and have acted effectively to resolve disputes and/or establish clear rules for the application of the Directive, as well as the degree to which Single Information Points have been established. If the Directive is effective in achieving its objectives, effective application should lead to greater infrastructure sharing and collaboration and streamlined procedures (outcomes – operational objectives), which in turn should reduce the cost of broadband deployment and contribute to achieving more ambitious broadband targets such as those outlined under the 2016 Communication on Connectivity for a European Gigabit society.<sup>3</sup>

---

<sup>2</sup> <https://ec.europa.eu/digital-single-market/en/news/impact-assessment-accompanying-document-proposal-regulation-european-parliament-and-council>

<sup>3</sup> 2016 Communication on Connectivity for a Competitive Digital Single Market – Towards a European Gigabit Society <https://ec.europa.eu/digital-single-market/en/news/communication-connectivity-competitive-digital-single-market-towards-european-gigabit-society>

Figure 0-1: Monitoring of BB CRD: structure of indicators



Assessing the linkages between these inputs and outputs requires the collection of significant amounts of data. Some elements of this data are factual and concern metrics such as usage or timeframes, while others reflect perceptions from stakeholders, which can be used to cross-check the factual data and assess the underlying causes or any problems or the reasons why certain initiatives have been successful. A complete set of indicators covering each article of the Directive and step of the monitoring process is shown in Table 6-5. A subset of this table highlighting the indicators we considered to be most important is shown below.

Table 0-1: Summary of proposed indicators for the monitoring of the BB CRD

Function	Indicators		Metric
Monitoring indicators by article	Access to infrastructure (Art. 3)	Application	Guidelines/rules concerning cost allocation and pricing
		Outcome (quantitative)	Km of ducts provided under BB CRD
			Km of aerial deployment under BB CRD
		Outcome (qualitative)	Operator satisfaction ease of access
			Operator perception change in ease of access
			Operator perception cost reduction
	Access to information on infrastructure (Art 4)	Application	Establishment of Single Information Point (SIP) for existing infrastructure
		Outcome (quantitative)	No. of requests to the SIP
		Outcome (qualitative)	Operator perception change in ease of access to information
			Operator satisfaction regarding access information
	Civil works co-ordination (Art 5)	Application	Guidelines/rules concerning co-deployment procedures and cost sharing
		Outcome (quantitative)	Length of joint deployment
		Outcome (qualitative)	Operator satisfaction regarding co-ordination
			Operator perception change in ease of co-ordination
			Operator perception cost reduction
	Transparency on civil works co-ordination (Art 6)	Application	Establishment of SIP for planned deployment
		Outcome (quantitative)	No. of requests to the SIP
		Outcome (qualitative)	Operator satisfaction regarding access information
Operator perception change in information			
Permit granting procedures (Art 7)	Application	Establishment of SIP on permit processes	
		Establishment of electronic permit granting	
	Outcome (quantitative)	Ave./max timeframe to obtain permit. % delivered within 4 months	

Function	Indicators		Metric	
		Outcome (qualitative)	Operator satisfaction regarding permit information	
			Operator satisfaction regarding permit granting	
			Operator perception change in permit granting	
	In-building physical infrastructure (Art 8)	Application		Existence of standards for in-building physical infrastructure
				Implementation of broadband-ready label
		Outcome (quantitative)		% new homes/renovations with broadband-ready infrastructure
				% homes awarded broadband-ready label
	Access to in-building physical infrastructure (Art 9)	Application		Existence of rules/guidelines on right to install and access in-building infrastructure
		Outcome (Qualitative)		Operator satisfaction regarding building entry, access
				Operator perception change in ease of building entry/access
	General provisions	Dispute resolution	Outcome (quantitative)	Number of disputes resolved
				Ave./max timeframe to resolve dispute (% within required period)
Outcome (qualitative)			Operator perception dispute resolution body	
Collaboration		Outcome (quantitative)	Jointly produced guidelines/dispute resolution	
		Outcome (qualitative)	Telecom and other NRA, local authority satisfaction with collaboration	

The outcome measures will be helpful in allowing the evaluation of the *effectiveness and efficiency* of the Directive,<sup>4</sup> but should be considered in light of the way the Directive has been applied in different countries. The following additional metrics should also be collected to enable the assessment of the effects of the Directive against the objectives which it sets out to achieve including its contribution to the Gigabit society targets.

Evaluation indicators	Effectiveness	Estimated cost reduction due to the BB CRD
		Increase in VHC BB deployment due to BB CRD provisions
	Efficiency	FTEs TNRA/ONRA for application/dispute resolution
		FTEs network operators
		Cost SIPs/info platforms upfront - recurring
		Perception change in administrative burden
		Perception benefits outweigh cost

In order to ensure that it is comparable across countries, factual data should be gathered in a consistent way (i.e. the same metrics should be used) and should encompass data from at least the main telecom operators and utilities which may be affected by BB CRD obligations in each country. We conclude that **comprehensive factual data gathering is most likely to be achieved if the data is subject to a formal information request by the national regulatory authority (NRA) or another competent body** involved in the implementation of the BB CRD.

In the case of processes involving local authorities such as timeframes for permit granting, it is also important that it can be reported consistently and gathered by a single body within each member state.

On the other hand, information from stakeholders can be most effectively gathered through surveys (involving closed questions with the option to provide additional feedback) and structured interviews. **The use of the same questions to stakeholders over successive review periods can provide valuable insights into how perceptions may change over time.**

### 0.3 Lessons from data gathering

For this initial monitoring assessment, we developed detailed online surveys and data gathering templates. These were circulated via pan-EU regulators' networks and trade associations to national regulatory authorities in the telecom sector, and other relevant sectors including transport, energy and water, as well as to telecom operators, utility and transport companies across the EU28. We received a total of 89 responses

<sup>4</sup> There is likely to be some interlinkage between the analysis of effectiveness and efficiency when assessing the effects of a Directive whose objective is to reduce costs.

including 24 national telecom regulators, 23 regulators responsible for other network industries, 32 telecommunication operators covering 13 member states, and 10 operators in other network industries. Follow-up calls, interviews and case studies were also conducted in 10 selected member states.<sup>5</sup>

The data gathered was relatively comprehensive as regards the status of application of the BB CRD, the numbers of disputes and their subject-matter and operators' views as regards the current situation for infrastructure sharing, co-deployment and other issues falling under the Directive and the effects of the BB CRD in this regard (to the extent it could be observed so soon after its application). However, **nearly no factual information was provided by NRAs on the outcomes achieved**, because such information is not yet routinely gathered. This means that we have not been able to provide comprehensive and complete quantitative measurement of the outcomes at this stage. However, although there was limited data from operators in some countries,<sup>6</sup> we received data from a sufficient number of significant telecom operators and/or utility companies in other countries to be able to provide an estimate (based on the confidential data provided) of the degree to which there is usage of access, co-deployment and SIPs. We have reported quantitative data where this was available, alongside using colour coding to indicate the estimated level of use from high to low. If NRAs start to gather comprehensive data on the proposed outcome indicators, it may be possible to report quantitative metrics more systematically in subsequent monitoring reports.

It is important to note that our data gathering covered the period from 2015 (prior to the application date of the BB CRD in July 2016) up to the end of June 2017.<sup>7</sup> Given that several member states have implemented the BB CRD only recently (and certain provisions applied only from January 2017), **the findings should be seen as a baseline assessment of the status of application of the Directive and associated outcomes**. Positive outcomes generally reflect measures that were in place prior to the BB CRD's application. Although some signs of progress can be seen, and are reported, these should be validated in subsequent data gathering exercises.

---

<sup>5</sup> DE, PT, SE, ES, FR, IT, PL, IE, BE, AT.

<sup>6</sup> It should be noted that limited information was received concerning PL due to the lack of responses to information requests, in particular from network operators. Data was limited to one electronic communication network operator in each of AT and BE, although responses were received from a number of other network operators (utilities) in BE.

<sup>7</sup> In some cases, where indicated, data to the end of December 2017 was available.

## 0.4 Overview of findings from the initial analysis

### 0.4.1 Nearly all member states have transposed the provisions of the BB CRD

As of mid-2017, nearly all countries for which information had been received<sup>8</sup> had transposed the BB CRD into national law. When considering the outcomes seen in different countries, it is important to note that some countries – including FR, DE, PT, ES, BE and IT had pre-existing legislation covering and in several cases going well beyond certain requirements of the Broadband Cost Reduction Directive.<sup>9</sup> This means that these countries have started from a baseline which is considered more advanced from others, at least for the areas in which they had pre-existing rules. Further details are available in Table 7-2.

### 0.4.2 The number of disputes is increasing

Between 2015 and H1 2017, NRAs from 24 member states reported a total of 40 disputes, which had been referred to the dispute settlement body. As can be seen from the chart below, there have been an increasing number of disputes opened since the BB CRD was applied, with 23 reported in the first half of 2017 alone.<sup>10</sup>

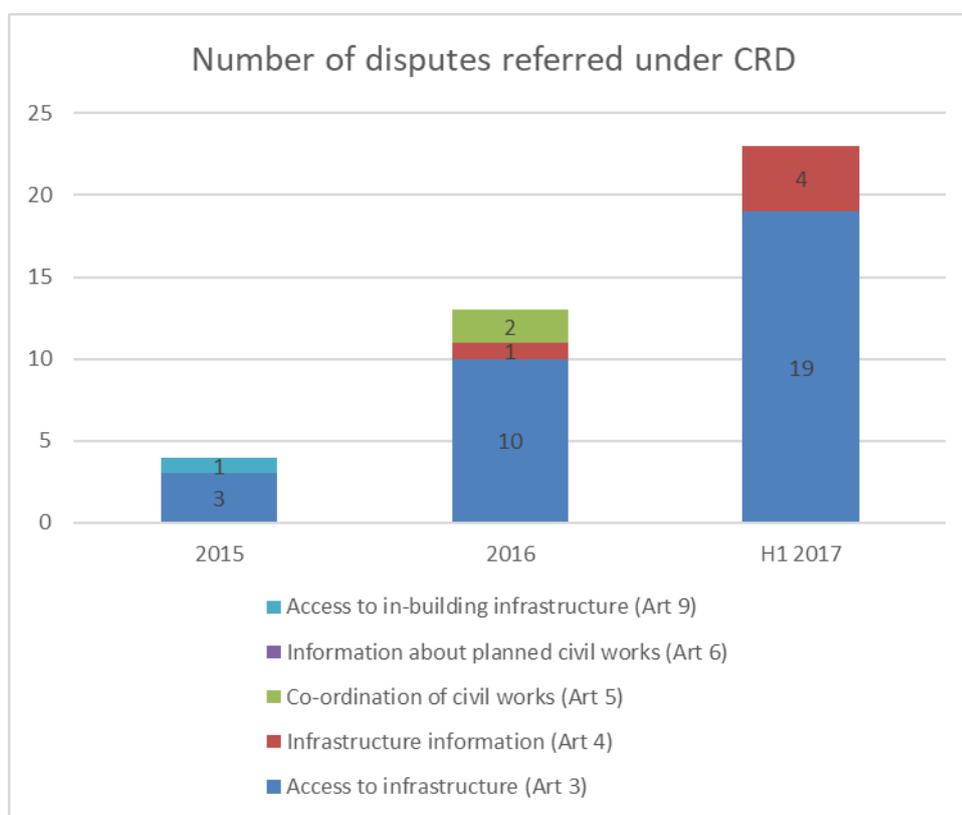
---

<sup>8</sup> Information on transposition was received for 24 countries from NRAs (see section 6.4.1 for details).

<sup>9</sup> FR, PT and ES had well-established regimes on in-building infrastructure. Early provisions on access to existing infrastructure were available in AT, FR, IT, DE and PT, while SIPs fulfilling at least some of the relevant criteria were available prior to the BB CRD in DE, SE and FR. Certain regions of BE had a comprehensive system on co-deployment, while IT had measures to facilitate the installation of physical infrastructure for broadband.

<sup>10</sup> Article 13 of the BB CRD provides that member states should adopt laws transposing the BB CRD by 1 January 2016 and apply the measures from 1 July 2016

Figure 0-2: Number of disputes<sup>11</sup>



Source: NRA questionnaires – 24 respondents

The vast majority of disputes concerned access to existing infrastructure (83% in 2017) (Art. 3) or information on existing physical infrastructure (Art.4) (14%).

Although 24 NRAs responded to the survey, disputes were recorded in only 9 countries, with the highest numbers reported in ES, SE, PL and more recently DE.<sup>12</sup>

Most of the EU member states have implemented legislative deadlines for resolving disputes which adhere to the deadlines specified in the BB CRD. However, deadlines have been exceeded in several cases and some operators raise concerns that

<sup>11</sup> In its December 2017 Report on the Implementation of the BB CRD, BEREC reports that more than 100 disputes had been resolved on BB CRD matters, from the time at which dispute settlement bodies gained relevant powers. This is a higher number of disputes than reported in this study, because it includes disputes resolved before 2015 – including numerous disputes resolved by the Polish NRA concerning access to in-building infrastructure, under powers which the NRA was granted in 2010. Another difference is that BEREC notes the number of disputes settled through a binding decision or mediation, whereas the numbers of disputes in this study refer to the number of disputes referred to the dispute settlement body.

<sup>12</sup> From 2015 onward, Spain was the member state with the highest number of disputes (12), while Poland attracted some of the earliest disputes with 4 recorded in 2015. Sweden has also attracted a number of disputes, and we are aware of multiple disputes currently ongoing (18+) in Germany, which were opened after data was gathered from the German NRA.

procedures for dispute resolution may have contributed to additional delays in practice.<sup>13</sup>

#### 0.4.3 Operators have concerns in many areas, but believe the BB CRD is starting to lead to improvements on some issues

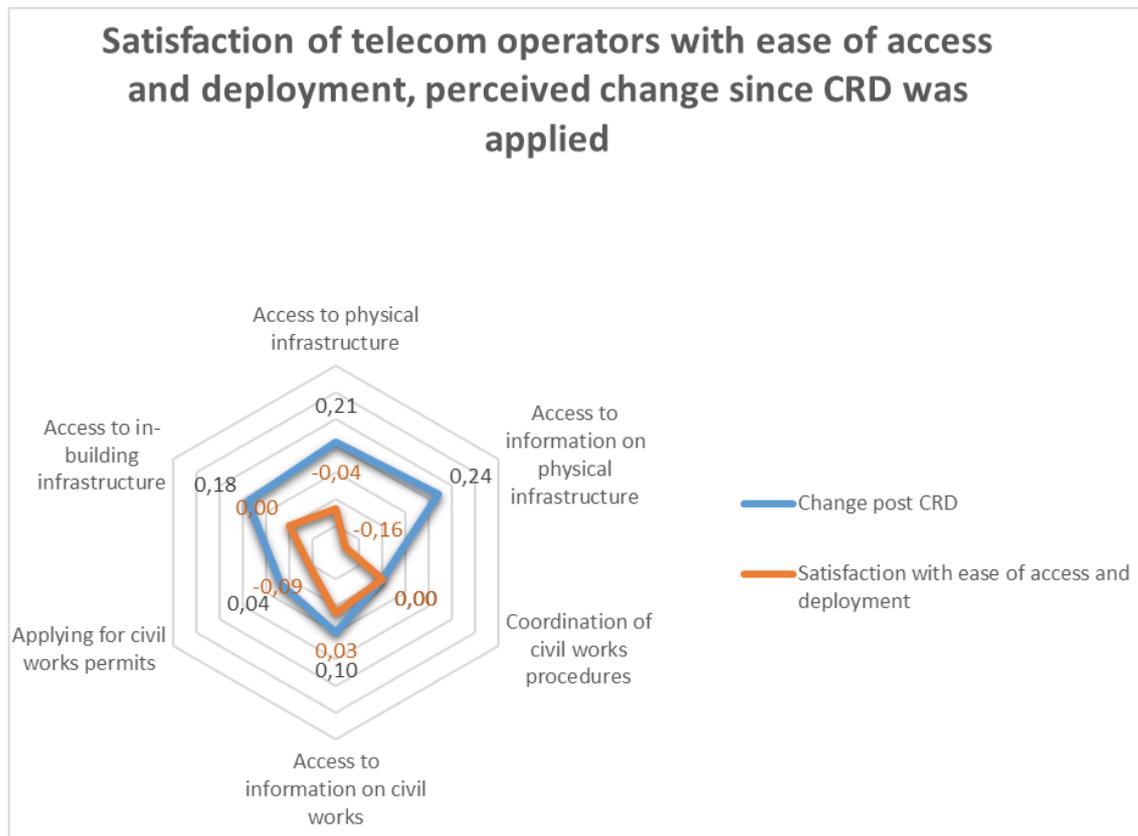
Responses to the survey undertaken for this study suggest that telecom operators consider that there have been some improvements in access to physical infrastructure and the associated information since the BB CRD was adopted, as well as in obtaining access to in-building wiring. However, there are still widespread concerns in these and other areas, and survey responses suggest that limited progress has been made to date in supporting co-ordination in civil works, easing the process of applying for civil works permits, or facilitating access to buildings for the installation of in-building wiring (which remains an issue in certain countries).

These results should be interpreted in light of the fact that survey responses were collected just one year after the BB CRD's date of application, and therefore should be seen as a baseline. If the same questions are asked through a survey in subsequent monitoring exercises for the BB CRD, they should provide an indication as to the extent to which there have been any further improvements in satisfaction which are seen as being due to the BB CRD. However, it should also be noted that the reasons for dissatisfaction may vary depending on the interests of the parties – and therefore quantitative survey results should always be considered in the light of explanations given by the respondents.

---

**13** The reasons given for not resolving disputes within indicated timeframes include internal reasons (e.g. complexity in settling key issues such as pricing) or external reasons (e.g. the use of mediation, co-ordination efforts).

Figure 0-3: Satisfaction of telecom operators with ease of access to existing infrastructure and deployment possibilities – vs perceived change in ease of access and deployment since the BB CRD was applied



Source: WIK/VVA based on responses from telecom operators to online survey August 2017

More detailed findings for each subject are discussed in the following sections.

### 0.5 Access to existing infrastructure

Article 3 of the BB CRD requires network operators (including not only telecom operators, but players in other network industries such as energy and transport), to meet reasonable requests for access to physical infrastructure for the purposes of deploying high-speed electronic communication networks, under fair and reasonable terms and conditions, including price. Reasons for refusal must be motivated and disputes may be referred to a dispute settlement body. Article 4 requires network operators to make available minimum information on request, and further requires public sector bodies holding elements of this minimum information to make it available via a Single Information Point (SIP).

From our analysis of the survey results as well as case studies and analysis of contractual offers, we find that the main regulatory issues arising in relation to access to existing infrastructure are:

- Lack of information about the location and availability of existing infrastructure
- Lack of clarity or perceived lack of fairness over how the costs of shared infrastructure will be allocated between the telecom operator renting access and the owner of the infrastructure – as well as a lack of the potential for access providers to benefit from cost savings and/or additional profits
- Disputes over the level of access pricing.<sup>14</sup> These include cases where the supplier is engaged in its own fibre deployment and has concerns that providing access would undermine their business case.
- Contractual terms, which can provide limited autonomy and flexibility for the access seeker and/or impose one-sided liability conditions

In general, we find that **countries which have provided information and elaborated rules to provide certainty to access providers and access seekers have experienced greater usage of infrastructure access.**<sup>15</sup> In most cases these rules were developed prior to the application date of the BB CRD and in some cases such as FR and PT are long-standing. Tools that have contributed to successful outcomes in these countries include the development of a comprehensive Single Information Point,<sup>16</sup> rules (whether through legislation, guidelines or dispute resolution) on access pricing (e.g. on the basis of cost-orientation) and the need for a Reference Offer<sup>17</sup> and rules enabling utility companies to benefit at least partially from the profits associated with providing access.<sup>18</sup>

There is a further group of countries in which demand for physical infrastructure access seems to be emerging, as evidenced by requests for access and the filing of disputes.<sup>19</sup> It is possible that the usage of infrastructure access in these countries may further increase as contractual terms and pricing principles are settled. The elaboration of SIPs

---

<sup>14</sup> In Italy, Decisions by the NRA (Decision n. 88/17/CIR as integrated by decision n. 131/17/CIR) required the modification of the Reference Offer of e-distribuzione – inter alia to remove conditions for minimum share capital and improve SLAs and penalties. AGCOM also modified the level of access tariffs.

<sup>15</sup> Countries in which we observed the highest levels of usage of access to existing infrastructure were IT, FR and PT

<sup>16</sup> Single information points covering existing infrastructure have been established and are considered by most stakeholders to be effective in IT and PT.

<sup>17</sup> Cost-orientation is required for access in PT and was required through a dispute in IT. The Italian NRA also required the modification of the Reference Offer of e-distribuzione – inter alia to remove conditions for minimum share capital and improve SLAs and penalties. Publication of a Reference Offer including price is recommended in FR.

<sup>18</sup> For example, In IT, there are clear rules which allow 50% of profits resulting from infrastructure sharing to be retained by the provider.

<sup>19</sup> Up to the first half of 2017, there were 4 disputes related to Art 3 in AT, 3 in PL, 8 in ES and 2 in SE. Several disputes have been referred to BNetzA in Germany since the data gathering exercise was completed.

in those countries where they are not yet fully developed<sup>20</sup> may also contribute to increased usage. Developments in these countries could provide an early indication of positive effects from the BB CRD, but this should be verified in a subsequent data gathering exercise. In other countries, usage appears limited (at least from the data that we were able to gather). Authorities in these countries could usefully assess (at least in countries where very high capacity (VHC) broadband is limited) whether there could be opportunities to be gained from a more detailed application of the provisions of the Directive.

When looking at usage of infrastructure access as a metric of the effectiveness of the provisions of the BB CRD, we recommend that this is assessed in the context of current levels of VHC broadband (there may be less ongoing demand for access in countries which are already well served), and the degree to which utilities and other non-telecom providers are already engaged in deploying VHC networks directly, because, as is acknowledged through certain provisions in the BB CRD,<sup>21</sup> overbuild of existing networks, especially outside very dense areas, could undermine the business case for investment, and therefore may not always be desirable in these cases.

## 0.6 Co-ordination of civil works

Article 5 of the BB CRD requires member states to ensure that every network operator which is fully or partially financed by public means, meets any reasonable request to co-ordinate civil works on transparent and non-discriminatory terms. Requests can be refused in some circumstances. There can also be exceptions to the obligation for less significant works, or for critical infrastructure. Member states may provide rules on cost-apportionment.

Most operators responding to the survey considered that civil works co-ordination can in certain circumstances reduce costs.<sup>22</sup> However, it is not used in practice in all countries. The main concerns around civil works co-ordination have been:

- Lack of information about where and when works will be conducted.<sup>23</sup>

---

**20** SIPs are available in these countries according to the NRAs and have been highly developed in the case of DE (Infrastrukturatlas), and also to our understanding in SE and AT, but concerns have been raised by stakeholders over the effectiveness of the SIP in ES.

**21** Article 3 of the BB CRD provides that one of the grounds for refusing a request may be the availability of viable alternative means of wholesale physical network infrastructure access which is suitable for the provision of high-speed electronic communications, provided that this access is offered under fair and reasonable terms and conditions. The BB CRD also notes that when access is provided by an operator that is itself offering high-speed electronic communications, the impact of providing access on the business case of that operator should also be taken into consideration when setting the price e.g. in the context of dispute resolution.

**22** Estimates by telecom operators of the potential cost reduction from co-deployment ranged from around 5% to 30%, compared with a greenfield deployment. Operators noted that civil works co-ordination is not always appropriate if deployments are needed on demand, or to fulfil a specific schedule.

**23** Our survey suggests that out of 10 countries studied, detailed single information points were available in AT, BE, PT and SE, but not elsewhere

- Notice periods to join civil works where relevant (too short, or too long, resulting in delays)
- The cost allocation between the lead trencher and those participating in co-deployment<sup>24</sup>

Our survey and case studies suggest that co-deployment can be more developed in countries where efforts have been made to set up a detailed SIP, establish specific procedures for civil works co-ordination,<sup>25</sup> and elaborate (either commercially or through regulation) rules on cost apportionment.<sup>26</sup> Some or all of these measures have been taken in countries such as BE, IT and PT, and significant usage of co-deployment was reported in these cases.

In general, co-deployment seems to have received less focus from both NRAs and stakeholders than access to existing infrastructure under the BB CRD. This is consistent with the perception from most stakeholders that there has not yet been any improvement in civil works co-ordination following the application of the BB CRD. Concerns expressed in several countries about the lack of transparency and absence of a comprehensive SIP for civil works co-ordination<sup>27</sup> may signal that if transparency were improved – in particular by implementing a pro-active approach to notification and expressions of interest - interest in co-ordination might increase in those countries which do not already have a strong track-record in civil works co-ordination.

## 0.7 Procedures for permit granting

The BB CRD requires member states to ensure that all relevant information concerning conditions and procedures for granting permits for civil works is made available via the single information point. Moreover, it requires member states to ensure that competent authorities grant permits within 4 months from receiving a complete request – except in exceptional circumstances, and advocates the right for compensation if these deadlines are not met.

Member states have the option to make provision for electronic permit applications, but are not required to do so.

---

<sup>24</sup> For example, costs were cited as a concern by Eurofiber in the context of co-trenching in Belgium

<sup>25</sup> For example, requirements to notify, deadlines to express interest

<sup>26</sup> Various approaches can be taken to cost apportionment, ranging from incremental costs through to proportionate sharing (sharing costs on the basis of the cost causation principle) through to equal sharing. Equal sharing may lead to telecom operators bearing more than a fair share of their cost, while incremental cost may result in the majority of the cost being borne by the utility.

<sup>27</sup> These concerns were expressed inter alia by some telecom operators responding in DE, FR, IE, IT and ES

From responses to the operator survey, it seems that the availability of information about permits and permit application procedures (specifically timeframes,<sup>28</sup> complexity and cost) continue to be problematic for a significant number of operators, with no significant changes reported since the BB CRD entered into force. NRAs responding to the survey note that measures to enforce the 4 month timelines have not been introduced in all member states, and very few member states have opted to make electronic permit applications possible. This suggests that improvements could be achieved if member states, which have not already done so, put in place monitoring and enforcement measures and consider introducing electronic permit applications.

The collection of more comprehensive data at national level on maximum and average timeframes for permit granting would help in assessing the effectiveness of this measure and its implementation in the different member states over time.

## 0.8 In-building infrastructure and broadband ready labels

The BB CRD provides that all newly constructed buildings and buildings subject to major renovation for which applications for building permits were submitted after 31 December 2016 should be equipped with high-speed-ready in-building physical infrastructure and an access point.<sup>29</sup> Buildings which have been equipped in accordance with this article would be eligible to receive a voluntary ‘broadband-ready’ label by member states which have chosen to introduce such a label.

Member states must ensure that anyone holding the right to use an access point and in-building physical infrastructure meets reasonable requests for access under fair and non-discriminatory terms and conditions, including price. The BB CRD also provides that all public communications network providers should have the right to access any existing in-building physical infrastructure if duplication is technically impossible or economically inefficient. Disputes can be referred to the Dispute Settlement Body.

A pre-requisite for the effective enforcement of the provisions on in-building infrastructure is the definition of standards which set out what is meant by high-speed-ready in-building physical infrastructure, and the associated access point, and mechanisms to monitor and enforce adherence to these standards. If standards are enforced, it should then become relatively straightforward to implement a broadband-ready labelling scheme.

Evidence from case studies we conducted in FR, ES and PT shows how important standards can be in ensuring the effective implementation of requirements for in-building infrastructure. In these countries mandatory standards setting out how the

---

<sup>28</sup> Data received from telecom operators suggests that the average timeframe to receive a permit is less than 4 months, but some operators in DE, IT and ES reported a high degree of variation depending on the municipality – with resulting delays in some cases

<sup>29</sup> Access points are only required for new or majorly renovated multi-dwelling units.

infrastructure must be installed and the location of the access point were introduced some years ago.<sup>30</sup> This has resulted in what we understand to be high levels of preparedness for the deployment of fibre. This has contributed (alongside favourable economic conditions) to the high rates of FTTH/B deployment in ES and PT.<sup>31</sup> According to responses from NRAs, some other countries have developed<sup>32</sup> or are in the process of developing standards for in-building infrastructure. However, many of the respondents were not aware of such measures. Greater attention to developing (preferably mandatory) standards in this area could make a significant contribution to supporting the deployment of high-speed broadband.

Likewise, few countries have developed a broadband-ready label,<sup>33</sup> despite a majority of respondents noting that this would be a useful mechanism to support the deployment and take-up of high-speed broadband. Evidence of its efficacy can be seen through examples such as the labelling scheme in South Korea.<sup>34</sup>

Contrary to the intentions of the Directive, responses to the survey also suggest that operators in some countries face problems gaining permission to access apartment buildings (from building owners) to install and upgrade in-building infrastructure for high-speed broadband. Experiences of gaining access to existing in-building high-speed broadband infrastructure (including fibres installed within buildings) have not changed significantly in the short period since the Directive was applied. Member states which have not yet established rules or settled disputes relating to access to in-building wiring could usefully gain from the experience of FR, ES and PT in this regard.

## **0.9 It is too soon to assess the impact of the BB CRD, but evidence from past experience suggests effective implementation could bring benefits**

As data was collected for this exercise up to June 2017, just one year after the application deadline of the BB CRD, and implementation in several countries was delayed beyond that point, no firm conclusions can be drawn at this time concerning the impact of the BB CRD on reducing the cost of broadband deployment or achieving more ambitious targets in line with the Gigabit society.

---

<sup>30</sup> Standardisation in FR and PT is underpinned respectively by 2008 and 2009 legislation, while the requirements for standards for ICT in buildings in ES date back to 1998 (Real Decreto-Ley 1/1998, 28.2.1998)

<sup>31</sup> The 2016 "Study on Broadband Coverage in Europe" for the European Commission shows that in June 2016 FTTH was available to 86% of households in PT and 63% in ES. Coverage has continued to expand since then.

<sup>32</sup> Standards for in-building infrastructure also exist inter alia in IT and AT

<sup>33</sup> Broadband-ready labels have however been introduced in IT and PT while there is a system to indicate fibred zones in FR

<sup>34</sup> More details are discussed in chapter 5

However, evidence from case studies in countries which previously applied provisions similar to those in the BB CRD and from companies which have engaged in cross-sectoral collaboration, suggests that there could be significant benefits to be gained including the expansion of high capacity broadband to underserved areas, if other countries follow suit.

- OpEn Fiber (IT) has suggested that the re-use of utility infrastructure (both of its mother company and other firms), allowed it to save costs of up to 50% in the initial phase of deploying FTTH. OpEn Fiber has an investment plan that covers 271 cities involving around 9.5 million premises in Italy (including both commercially viable and so-called 'white areas'). Its planned FTTH deployment covers 6,700 more remote municipalities that were identified as areas of 'market failure'.
- Fast Opticom (DE) claims that their technology and connections with sewer companies can save 40% compared with digging alone. This technology has supported the deployment of 900km of fibre to around 300,000 homes in Germany. A greater openness by sewer companies to collaborate and clarity about the associated rules could support further expansion.
- The electricity company Enedis (FR) reported in 2014 that 37% of the 550,000km of optical fibre in France had been deployed using its pole infrastructure, thereby supporting deployment in less dense areas. Usage of access to the networks of utilities in PT (and particularly pole access) is also high.
- The existence of information and procedures for co-deployment has supported fibre deployment in BE, including to harder to reach areas including business parks.<sup>35</sup>
- Detailed standards for in-building infrastructure and provisions on access to such infrastructure has supported the widespread commercial deployment of FTTH in ES and PT.

These examples are supported by feedback from several operators responding to the survey, which considered that significant cost reductions of between 40-75% could be achieved from access to existing infrastructure, with some (albeit smaller) reductions possible from co-deployment.

The degree of cost reduction possible by making use of access to existing infrastructure, as well as the potential for pole access to facilitate rural deployment both illustrate the role the BB CRD could play in supporting the objectives outlined in the Communication on Connectivity for a Gigabit Society. In principle cost reductions of the order of 40-50% as illustrated above (or even lower reductions of 10%) could make

---

<sup>35</sup> Eurofibre notes that some 10% of its fibre has been co-deployed in BE, although it considers that improvements could be made to the conditions.

areas which are currently unviable, commercially feasible propositions.<sup>36</sup> Achieving these benefits may however require a more pro-active approach of Member States to implementing the provisions of the BB CRD, potentially including those which are presented as optional.

## 0.10 Recommendations

### Recommendations for data gathering

A key output from this study are proposed indicators for the evaluation of the BB CRD going forward. The indicators are described in detail in Table 6-5. We further recommend that the following steps are taken to support data gathering.

1. We recommend that the NRA and/or DSB (if different) take responsibility for gathering data from the industry concerning the km of access to physical infrastructure used from utilities and transport companies to support the deployment of electronic communication networks, as well as the km of network deployed (as a proportion of the total) in co-deployment;
2. Member states should ensure the reporting and consolidation on a national level of data from local authorities on the timeframes for permit granting, and the number of buildings which have been certified as deployed with high-speed-ready in-building infrastructure;
3. We recommend that a further survey should be conducted at EU level of stakeholder perspectives within a 2-3 year period. To allow an evaluation of progress, the survey should cover to a large extent the same questions as those posed in this exercise.

### Recommendations to NRAs and member states for the implementation of the BB CRD

On the basis of our analysis of available data, case studies and responses to the survey, we also make the following recommendations to support cross-sector infrastructure sharing and co-deployment at national level.

1. NRAs or other relevant bodies (in collaboration with other sectoral authorities) should aim to provide clarity around **price regulation** for utilities and electronic communications providers engaging in cross-sectoral collaboration: This could involve guidelines, or decisions made in the context of disputes. Guidelines on access pricing should indicate (i) which methodology (e.g. cost orientation) would normally be followed in the context of dispute resolution, and how the methodology would be adapted to take into account the impact on the business case in circumstances where access is requested from an organization which

---

<sup>36</sup> Analysis in the study by WIK et al (2016) on Regulatory, in particular Access regimes for network deployment in Europe, shows the degree to which viable coverage is dependent on the costs of serving particular areas, which increase with reduced population density.

operates its own telecom infrastructure; (ii) how costs for shared infrastructure would be allocated between utilities and telecom operators; and (iii) the degree to which utilities can benefit from any cost-savings or profits arising as a result of collaboration (with a recommendation that they should be able to retain at least half). NRAs should encourage industry agreement or produce guidelines concerning **cost-sharing** in relation to co-ordination of civil works.

2. NRAs or other relevant bodies (in collaboration with other sectoral authorities) should recommend the publication of **Reference Offers** and, where necessary provide guidance concerning appropriate contractual conditions for access under the BB CRD. Lessons around contractual best practice could be taken from best practice examples of existing cross-sectoral contracts as well as from the development of SMP regulated Reference Offers for physical infrastructure access.<sup>37</sup>
3. **Effective SIPs** are required to be established in all countries to address certain provisions of the BB CRD. Responsible authorities should consider going beyond the minimum requirements of the Directive, especially in markets where there are a large number of potential access seekers and/or access providers.
  - In the case of existing infrastructure, SIP managers should consider the use of mapping, inclusion of data on availability and capacity and make provision to ensure data is up-to-date.
  - In the case of co-deployment, member states should consider a pro-active approach towards information, whereby relevant public (and if relevant private) actors are required to pre-notify deployment plans to the SIP and invite interested parties to respond.
  - Member states should consider making electronic permit application available via the SIP.
4. Member States should ensure that there is a clear right to install **in-building infrastructure** on reasonable request, and that this is enforced. Member States that have not already done so, could usefully consider whether they could introduce **standards** for in-building infrastructure and associated **broadband labelling schemes**. A dedicated agency could be considered to provide certification, monitoring, information and dispute resolution services. It is important for NRAs to take pro-active measures (and/or resolve disputes swiftly and in some detail) to ensure that **clear rules are established concerning the terms, conditions and price for access to in-building infrastructure**.

---

<sup>37</sup> For example, contractual terms which maximise the autonomy of access seekers to conduct feasibility analyses, install and repair infrastructure themselves (for example through use of accredited contractors) are likely to make infrastructure access more attractive. However, certain safeguards (eg regarding safety) and priorities are of course likely to be needed when installing broadband cables alongside other infrastructures.

5. NRAs should develop clear **guidelines concerning the dispute resolution process**, which aim to minimise use of procedures which could create undue delays – such as mandatory mediation prior to accepting disputes. NRAs should **consider whether the current resources (and/or taskforce practices) are sufficient to satisfactorily resolve increasing numbers of disputes**, especially in the initial implementation phase of the Directive
6. **Better collaboration amongst regulators** could be pursued by creating umbrella organisations or common working groups which produce common guidelines or discuss relevant issues including cross-sectoral co-deployment and access. Greater co-ordination amongst regional and local authorities and the creation of joint working groups or contacts between local authorities and sectoral regulators is also important as regards civil works coordination or access to municipal infrastructure. Such co-ordination could in particular be organised in the context of ensuring that advance information about deployments is provided in a common format and is made available through a central system.

#### Recommendations for collaboration at European level

The following initiatives could also be pursued to support cross-sector infrastructure sharing and co-deployment at European level.

1. BEREC, ACER and other sectoral regulatory groups at EU level could consider making arrangements for regular collaboration on issues which have cross-sectoral implications e.g. through establishing a Memorandum of Understanding and/or establishing relevant working groups.
2. BEREC, ACER and other relevant sectoral regulatory groups at EU level could consider developing guidelines on best practice contractual terms and pricing/cost apportioning approaches under the BB CRD. Price guidelines could include discussion of methodologies to set access prices, cost allocation between sectors and treatment of profits for utilities engaging in cross-sectoral collaboration. Cost-sharing in the context of civil works co-ordination could also be considered.

European Commission

**Study on Implementation and monitoring of measures under  
Directive 61/2014 Cost Reduction Directive (Executive Summary)**

Luxembourg, Publications Office of the European Union

**2018** – 26 pages

ISBN 978-92-79-81819-6

doi: 10.2759/746623

