



# Model Law on DigOnce!



## INDEX

<b>Introduction.....</b>	<b>1</b>
<b>Article 1: Scope of Application .....</b>	<b>7</b>
<b>Article 2: Definitions.....</b>	<b>8</b>
<b>Article 3: Access to Existing Network Infrastructure.....</b>	<b>10</b>
<b>Article 4: Creation of New Infrastructure .....</b>	<b>12</b>
<b>Article 5: Modification of Existing Infrastructure .....</b>	<b>13</b>
<b>Article 6: Register of Network Infrastructure.....</b>	<b>14</b>
<b>Article 7: Register of Available HSCN Capacity .....</b>	<b>15</b>
<b>Article 8: Register of Civil Works .....</b>	<b>16</b>
<b>Article 9: Control of Civil Works.....</b>	<b>17</b>
<b>Article 10: Network Access Points .....</b>	<b>18</b>
<b>Article 11: Network Implementation and Arbitration Council .....</b>	<b>20</b>

**Author: John J Morris LLB (Hons)**

### **Contributors**

Jonathan E. Finegold, J.D.; Ms. Shruti Iyer, Advocate (India); M. Aya Kiy, J.D.; Faraz Maqbool, Advocate (India); Angus McLeod, Barrister and Solicitor of the Supreme Court of Western Australia; Shehu Mustafa, Barrister & Solicitor of the Supreme Court of Nigeria; Michael Potter MSc; Professor Chris Stott MSc; Mr Ram Raj Yadava, Indian Telecommunication Services; Niels Zibrandtsen.

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# Model Law On DigOnce!

## Introduction

### 1. Connectivity is the Revolution

In the 21st Century, broadband connectivity is the revolution that is capable of positively impacting the lives of billions of people. Like the 20th century revolution of electricity and the 19th century revolution of railways before it, broadband connectivity also relies on a physical network to be rolled out in order for affordable, adequate connectivity to be available to all.

### 2. Nearly half of the World's Population are not Connected

Of an estimated global population of 7.3 billion people, approximately 3.2 billion do not have access to the benefits of affordable, adequate broadband internet. Over 90% of the world's unconnected people live in developing countries, primarily in South Asia (1.4 billion in 2014), East Asia and the Pacific (1.2 billion) and sub-Saharan Africa (800 million)<sup>1</sup>

### 3. The Digital Premium-the benefits of Connectivity

There have been many studies highlighting the social, administrative, educational and economic benefits of broadband and also the role of broadband in helping to meet the UN Sustainable Development Goals.

#### 3.1 Economic

3.1.1. The OECD concluded that, based on investment in broadband producing an estimated 20:1 benefit ratio<sup>2</sup>, the cost savings in four sectors of the economy alone (education, electricity, health and transport) would justify the construction of a national high speed communications network<sup>3</sup>

3.1.2. Czernich estimated that a 10% increase in broadband penetration would result in an increase in GDP growth of between 0.9% and 1.5%<sup>4</sup>

3.1.3. Evidence suggests broadband is a net job creator with a 2012 study concluding that the indirect jobs created were even more numerous than the direct jobs<sup>5</sup>

3.1.4. A 2009 study showed that shopping online enabled US consumers to save an estimated \$7.5 billion between 1999 and 2006<sup>6</sup>

#### 3.2 Educational

3.2.1. Various studies summarised by Tech4i2 and Analysis Mason (2012) indicate the educational benefits of distance learning, shared collaborative and cross-border study, making education more affordable, accessible and flexible

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<sup>1</sup> <https://fbnewsroomus.files.wordpress.com/2016/02/state-of-connectivity-2015-2016-02-21-final.pdf>

<sup>2</sup> Shearman 2011

<sup>3</sup> Network Developments in support of innovation and User Needs, OECD 2009

<sup>4</sup> Czernich et al (2009)

<sup>5</sup> Tech4i2 and Analysis Mason (2012)

<sup>6</sup> Greenstein and McDevitt (2009)



## Model Law On DigOnce!

especially for working people and for giving students and educators access to significant online, multi-lingual, educational resources.

- 3.2.2. One study concluded that if digitally excluded children in the UK had access to a computer they would experience a 4.5% increase in educational attainment resulting in a GBP10.5 billion lifetime earnings benefit.<sup>7</sup>

### 3.3 Social

- 3.3.1. According to a study conducted by Kim<sup>8</sup>, broadband has significant community benefits helping to promote social interaction by connecting consumers, businesses and governments. It supports good governance including by making community leaders more accountable, makes e-government possible, strengthens the social capital and increases civic engagement. It also makes helps rural businesses to grow, improves life quality in rural areas, and makes it then easier for more remote locations to attract and retain their residents.

- 3.3.2. Broadband can reduce healthcare costs and improve health and social care outcomes by enabling senior citizens to live longer in their homes and. One study estimated that the widespread adoption of 'tele-health' in Australia could result in annual savings of between AUD2-AUD4 billion.<sup>9</sup>

- 3.3.3. Environmentally it is suggested that the widespread adoption and use of high-speed broadband would enable the proliferation of smart buildings and smart grids which would reduce travel needs, resulting in a significant reduction of carbon emissions. A study by McKinsey<sup>10</sup> found that broadband-enabled smart-grid services and devices could yield more than USD1.2 trillion in gross energy savings.

- 3.3.4. In a review of studies concerning the positive impact of broadband on crime prevention it was noted that broadband has helped to improve police and other emergency service response times, improved the level of information available, helped people to feel safer and generally improved crime prevention.<sup>11</sup>

### 3.4 UN Sustainable Development Goals ("SDG's)

- 3.4.1. ITU and UNESCO set up the Broadband Commission for Digital Development in response to UN Secretary-General Ban Ki-Moon's call to step-up UN efforts to meet the SDG's. The Commission was established in May 2010 with the aim of boosting the importance of broadband on the international policy agenda.

- 3.4.2. A 2015 report published by The Earth Institute (Columbia University) and Ericsson entitled "How Information and Communications Technology can

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<sup>7</sup> Pricewaterhouse Coopers (2009)

<sup>8</sup> Kim et al (2010)

<sup>9</sup> Access Economics (2010)

<sup>10</sup> McKinsey Global Energy and Materials (2009)

<sup>11</sup> Tech4i2 and Analysis Mason (2012)

## Model Law On DigOnce!

Accelerate Action on the Sustainable Development Goals”<sup>12</sup> confirmed that ICT is a key enabler in helping to achieve the United Nations Sustainable Development Goals.

- 3.4.3. For example, regarding **Gender Equality** the report states: “ICT can enhance gender equality and gender empowerment, allowing women and girls to access information of importance to their productive, reproductive and community roles as well as involving women in urban planning. Women’s sustainable livelihoods can be enhanced through expanded access to markets, education, training and employment”.

The World Bank suggests that investing in women and girls can have a 10-times multiplier effect on the community in developing countries and a World Bank report on “Information and Communication Technologies for Women’s Socioeconomic Empowerment” points to increased empowerment and opportunities for women.<sup>13</sup>

- 3.4.4. Regarding **Poverty** the report states: “ICT is key to helping end poverty by providing possibilities to improve productivity among millions of people so that they can better provide for themselves and their families and move out of poverty. This can occur in many ways, for example, by providing timely and accurate information services to help ensure equal rights to economic resources, as well as enabling services such as mobile banking and micro-credit, and in helping small producers to find the best markets for their products”.

- 3.4.5. Regarding **Clean Water and Sanitation** the report states: “ICT will be crucial in ensuring the availability and sustainable management of water and sanitation for all. ICT is particularly important in terms of smart water management, infrastructure location, better and lower-cost maintenance, optimized operations and improved quality of service to customer”

#### 4. Why DigOnce!

The speed at which the exponential technology of broadband can be rolled-out is principally determined by the non-exponential processes of laying fiber networks which, in the majority of environments, is an un-centralised and un-coordinated process frequently requiring material civil works. In addition, an estimated 80% of the costs of fiber roll-out are civil engineering costs<sup>14</sup>. To realise the digital leverage of broadband in a meaningful timescale requires a top down review of how this process can be made more efficient so that the benefit of high speed internet can become more available and affordable.

The Model Law proposed in this document is the result of reviewing the main elements that can be optimised. This has resulted in the proposal of creating a statutory body to: implement

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<sup>12</sup> <https://www.ericsson.com/assets/local/about-ericsson/sustainability-and-corporate-responsibility/documents/ict-sdg.pdf>

<sup>13</sup> <http://documents.worldbank.org/curated/en/812551468148179172/Information-and-communication-technologies-for-womens-socioeconomic-empowerment>

<sup>14</sup> OECD 2008; WIK 2008

the sharing of existing networks; the installation of fiber ready conduits in new and modified infrastructures; the digital centralisation of key information and the related coordination of civil works and the requirement to make new and modified buildings high speed network ready.

### 5. DigOnce! Initiatives

#### 5.1 European Union.

5.1.1. The Digital Single Market concept was introduced in a report by Mario Monti 'A new Strategy for the Single Market' to the President of the European Commission, 9 May 2010.<sup>15</sup> The Digital Agenda for Europe includes two main broadband targets: broadband speeds of 30 megabits per second (Mbps) for 100% of households, and at least 50% of these households subscribing to speeds of over 100 Mbps, both by 2020.

5.1.2. After a series of studies, an EU Directive passed into law on 15 May 2014: Directive 2014/61/EU of the European Parliament and of the Council on measures to reduce the cost of deploying high-speed electronic communications networks.<sup>16</sup> The Directive focused on enabling high-speed broadband network operators to achieve faster roll-out by: sharing physical network capacity with other network operators including utilities; promoting the access to information and the coordination of civil works; ensuring that new and modified buildings were high-speed broadband ready and various related initiatives. The Directive was supposed to have been enacted into law by the 28 member states by January 2016; there is little evidence of this to date.

#### 5.2 USA.

5.2.1. In May 2009 US Congressional Representative Eshoo first introduced the Broadband Conduit Deployment Act 2009<sup>17</sup> which focused on the "Inclusion of broadband conduit installation in certain highway construction projects".

5.2.2. In June 2012 with a view to the development of a national broadband/digital infrastructure President Obama issued an Executive Order regarding accelerating broadband infrastructure with a view to "develop and implement a strategy to facilitate the timely and efficient deployment of broadband facilities".

The Executive Order required "The Department of the Interior and other Broadband Member Agencies with responsibility for federally owned highways and rights of way on tribal lands... to include the use of dig once requirements to encourage the deployment of broadband infrastructure in conjunction with Federal highway construction". The term "dig once" was defined as "requirements designed to reduce the number and scale of repeated excavations for the installation and maintenance of broadband

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<sup>15</sup> [http://ec.europa.eu/internal\\_market/strategy/docs/monti\\_report\\_final\\_10\\_05\\_2010\\_en.pdf](http://ec.europa.eu/internal_market/strategy/docs/monti_report_final_10_05_2010_en.pdf)

<sup>16</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014L0061>

<sup>17</sup> H.R. 2428 (111th): Broadband Conduit Deployment Act of 2009 (Bill)

## Model Law On DigOnce!

facilities in rights of way.” The Federal Highway Administration has since implemented this.<sup>18</sup>

- 5.2.3. In September 2015, the US State Department launched its Global Connect initiative which “seeks to bring 1.5 billion people who lack Internet access, online by 2020”. As part of this initiative the US State Department published a ‘Dig Once’ guide in April 2016: “The objective of Dig Once is to have all major infrastructure programs install an underground fiber link when building or renovating roads, railways, pipelines, utility infrastructure, and energy distribution channels. The policy strongly suggests laying fiber rather than empty conduit to prevent waste.”
- 5.2.4. In October 2015 US Congressional Representative Eshoo re-introduced the Broadband Conduit Deployment Act 2015<sup>19</sup> which focused on the “Inclusion of broadband conduit installation in certain highway construction projects”. The bill is yet to pass into law.
- 5.2.5. In November 2015 FCC Commissioner Jessica Rosenworcel, in a statement to a House of Representatives Committee, said that “We can begin with Dig Once policies—which can pave the way for more broadband deployment. The notion behind Dig Once is simple. When construction crews are building or repairing roads, deploying broadband conduit at the same time adds only 1% to the cost of highway projects. But this small change can have big impact— yielding more broadband investment, more universal access, and more competition.”<sup>20</sup>
- 5.2.6. In October 2016 FCC Commissioner Ajit Pai in his ‘six strategic steps to close the digital divide’ said: “Make “dig-once” a central tenet of nation’s transportation policy. Dig-once is a concept that calls for every construction project to include the installation of a conduit that can carry fiber optic.”<sup>21</sup>

### 5.3 Other Countries

- 5.3.1. In 2009 the Australian Government announced a National Broadband Network project to deliver 12mbps internet to 98% of premises in Australia by 2020. Under the Telecommunications Act 1997, there are some Dig once equivalent provisions including carriers having an obligation to share ‘eligible’ underground facilities and, in planning the provisions of future carriage services, carriers must cooperate with other carriers to share sites and eligible underground facilities.
- 5.3.2. The Telecom Regulatory Authority of India has recommended, as part of its ‘National Broadband Plan’ that infrastructure providers share key facilities in order to expedite network rollout but this remains as a recommendation. Under the National Optical Fiber Network (also called BharatNet) initiative,

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<sup>18</sup> <https://www.fhwa.dot.gov/policy/otps/workplan.cfm#dig>

<sup>19</sup> H.R.3805 - Broadband Conduit Deployment Act of 2015 (Bill)

<sup>20</sup> [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-336457A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-336457A1.pdf)

<sup>21</sup> <http://www.startlandnews.com/2016/10/fcc-commissioner-ajit-pais-six-strategic-steps-close-digital-divide/>

## Model Law On DigOnce!

150,000 route kilometres of centrally funded fiber have been laid and the resulting capacity made available to local operators on commercial terms effectively reducing the amount of local civil works.

5.3.3. Nigeria's National Broadband Plan 2013-2018<sup>22</sup> encourages the sharing of infrastructure, including by financial and tax incentives, and the formation of industry working groups, in order to accelerate the roll out of a national backbone and metro network. Nigeria sees this as a critical part of its Vision20:2020: becoming a top 20 economy in the world by 2020.

5.3.4. In Indonesia, pursuant to Law 36 of 1999, telecommunications operators have to meet a Universal Services requirement of providing services to communities as yet unreached by telecommunications services.

### 6. The Model Law on DigOnce!

6.1 GEEK'S is progressing its strategic initiative of bringing internet to a billion people within the next 10 years ('Broadband for the next Billion') by focussing on two key strategies:

6.1.1. **'VillageConnect'**: working with partners to deliver sustainable internet to villages with both universal service (healthcare and education) and social entrepreneurship solutions, and

6.1.2. **'DigOnce!'**: international model legislation designed to drive and inspire a global policy effort to help close the digital divide. By promoting strategies designed to speed up and reduce the cost of rolling out fiber networks with a view to making broadband internet available to more people more quickly, and at a lower economic and environmental cost, GEEKS can help to empower leaders and decision makers to help solve humanities grand challenges.

6.2 The GEEKS Model Law builds on the work done in this area in the European Union and on the emerging commitment to Dig once style initiatives in the USA and other countries. The DigOnce! strategy is relevant to any Nation, State, international NGO's and aid networks funding new long-term infrastructure projects or rebuilding destroyed Cities, international funding organisation, City Council, consultancy and law firms advising such, indeed, any entity that aspires to extend the benefit of the digital leverage resulting from rolling-out high speed internet to its population or community.

6.3 The Model Law is a Creative Commons policy document designed to provoke discussion, suggestion and ultimately action. By encouraging other stakeholders in the wellbeing of people to engage in formulating a version of the Model Law that can apply in their particular environment, GEEKS will have made progress in achieving its strategic objective of 'Broadband for the next Billion'.

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<sup>22</sup> [http://www.researchictafrica.net/countries/nigeria/Nigeria\\_National\\_Broadband\\_Plan\\_2013-2018.pdf](http://www.researchictafrica.net/countries/nigeria/Nigeria_National_Broadband_Plan_2013-2018.pdf)

### The Model Law

#### Article 1: Scope of Application

1. The Model Law on DigOnce! (“Model Law”) provides a customizable framework designed to increase the availability of broadband internet facilities by reducing the time, cost and environmental impact of rolling-out high-speed communications networks.
2. The Model Law seeks to achieve this by:
  - 2.1 promoting the joint use of existing Networks;
  - 2.2 incorporating components of High-Speed Communications Networks into new and modified Infrastructure developments;
  - 2.3 making relevant information more transparent by creating centralised registers of Network Infrastructure; available High-Speed Communication Network capacity and Civil Works relating to deploying components of High-Speed Communication Networks;
  - 2.4 coordinating and, if necessary, preventing Civil Works relating to deploying components of High-Speed Communication Networks;
  - 2.5 ensuring that Network Operators have access to Network Access Points and that new and modified buildings are High-Speed Communication Network ready; and
  - 2.6 creating a statutory, national, independent body to implement and regulate the Model Law, resolve disputes and levy and enforce fines.
3. Unless otherwise stated, the articles of the Model Law apply to both public and private sector stakeholders.
4. In the Model Law, words in the singular form shall be construed to include the plural and vice versa, unless the context otherwise requires.
5. The Articles of the Model Law are severable and may be adopted in whole or in part.

### Article 2: Definitions

1. **‘Civil Works’** means any building or engineering works which, taken as a whole with other related works, are sufficiently material to require a Licence in order to conduct such works.
2. **‘Communications Network’** means any Network used or authorised to be used to convey electronic, optical or radio (whether using regulated frequencies or otherwise) signals including, without limitation, sounds, images and data, and whether using wired, wireless or radio Network Infrastructure.
3. **‘Communications Network Provider’** means any person or entity providing or authorised to provide a Communications Network.
4. **‘High-Speed Communications Network’ (“HSCN”)** means a Communications Network capable of delivering broadband services at download speeds of at least 25 megabits per second and upload speeds of at least 3 megabits per second or such speeds as may be determined from time to time by the NIAC.
5. **‘Infrastructure’** means any physical infrastructure of any nature whether including Network Infrastructure or otherwise.
6. **‘Licence’** means the documented terms of approval of Civil Works by any competent authority which regulates or otherwise controls the carrying out of such Civil Works.
7. **‘Network’** means any Network Infrastructure used or authorised to be used by a Network Operator to provide Network Services.
8. **‘Network Access Point’** means a physical connection point, whether located inside or outside any building or Infrastructure that enables Communications Network Providers to connect their Network so as to be able to provide Network Services to Subscribers.
9. **‘Network Infrastructure’** means:
  - 9.1. any aspect of the physical infrastructure used or authorised to be used by a Network Operator to provide Network Services, provided that such physical infrastructure carries, contains, houses or supports the active component of the Network Service being provided without itself becoming an active component of the Network including, without limitation, antenna installations, buildings, cabinets, communications exchanges, conduits, ducts, inspection chambers, manholes, masts, Network Access Points, Network components within buildings, pipes, poles, roads, railways, towers, waterways, equipment for transmitting wireless or satellite signals or any other physical part of a Network or any legal rights to use, share or access such

## Model Law On DigOnce!

- 9.2. for the avoidance of doubt, the active components of a Network including, for example, cables conveying electricity, dark fiber conveying optical signals, antenna conveying wireless or radio frequencies and components used or intended to be used for carrying drinking water for human consumption shall be excluded from the definition of network infrastructure.
10. **'Network Operator'** means an undertaking, whether publically or privately funded, providing or authorised to provide Networks including but not limited to:
  - 10.1. Communications Networks; or
  - 10.2. Utility networks including, without limitation, any physical infrastructure used or authorised to be used to provide the service, transport or distribution of gas, electricity, public lighting, heating, water, sewage and drainage; or
  - 10.3. Transport networks including any physical infrastructure used or authorised to be used to provide transport services, including, without limitation, railways, roads, ports and airports; or
  - 10.4. Waterways networks including without limitation, canals, rivers, viaducts, navigation channels and other waterways.
11. **'Network Implementation and Arbitration Council' ("NIAC")** is as defined in Article 11.
12. **'Network Services'** means any services that Network Operators provide or are authorised to provide to Subscribers.
13. **'Subscriber'** means any person or entity that uses or is authorised to use a Network Service, whether for value or otherwise.

### Article 3: Access to Existing Network Infrastructure

1. The Right to Offer Access
  - 1.1. Network Operators shall have the right to offer Communications Network Providers access to their Network Infrastructure for the purpose of implementing components of High-Speed Communication Networks.
  - 1.2. Communications Network Providers may offer access to their Network Infrastructure to other Network Operators.
2. Request for Information
  - 2.1. Communications Network Providers considering requesting access to Network Operators' Network Infrastructure for the purpose of implementing components of High-Speed Communication Networks shall be entitled to request appropriate information from the Register of Network Infrastructure in accordance with Article 6.
3. Request for Access
  - 3.1. Network Operators shall be obliged to grant all reasonable requests from Communications Network Providers to give access to their Network Infrastructure for the purpose of implementing components of High-Speed Communication Networks.
  - 3.2. Requests for access by Communications Network Providers shall be made using a Request for Access ("**RFA**") form, the format of which shall be determined by the NIAC, but shall include sufficient information to enable the Network Operator to arrive at a fully informed decision within 30 working day of receipt of an RFA.
4. Site Surveys
  - 4.1. Once a valid RFA has been submitted, the Network Operator, shall be obliged to grant all reasonable requests from the issuer of the RFA to conduct a site survey relating to the components of its Network Infrastructure specified in the RFA. Such request shall be made using a Site Survey Request ("**SSR**") form, the format of which shall be determined by the NIAC. The Network Operator shall have 15 working days to respond to such request.
  - 4.2. Where the Network Operator consents to the site survey, the terms offered shall be fair and reasonable including as to time, price and conditions and made using a Consent to Survey ("**CTS**") form, the format of which shall be determined by the NIAC.



## Model Law On DigOnce!

### 5. Consent to Access

5.1. Where the Network Operator consents to access, the terms offered must be fair and reasonable including as to time, price and conditions and set out made using a Consent to Access (“**CTA**”) form, the format of which shall be determined by the NIAC.

### 6. Refusal of Access

6.1. Where the Network Operator refuses access, the basis of refusal shall be fair and reasonable and shall be communicated to the entity requesting access within a reasonable time and in any event, no later than 30 working days from the date of receipt of the request, and shall be specified in a Refusal of Access (“**ROA**”) form, the format of which shall be determined by the NIAC but which shall include a number of grounds for refusal including, without limitation, technical suitability, network capacity, national security, public health and safety, commercially sensitive intellectual property and the availability of more suitable alternatives.

### 7. Dispute Resolution

7.1. Where Network Operators do not respond to an RFA or SSR form within 30 working days or where the terms of a CTS, CTA or ROA form are in dispute and where the parties have been unable to reach agreement within 30 working days, Communications Network Providers may refer the case to the NIAC for arbitration.

7.2. Cases referred to the NIAC for arbitration shall be dealt with in accordance with Article 11.

7.3. The NIAC shall have the power to impose and enforce fines in accordance with the terms of Article 11.

### Article 4: Creation of New Infrastructure

1. Where the creation of new Infrastructure by or on behalf of any Network Operator amounts to Civil Works (“New Infrastructure”), the Licence to create the New Infrastructure shall be conditional upon the incorporation into the New Infrastructure of Network Infrastructure capable of supporting components of High-Speed Communications Networks in accordance with a Minimum Network Specification Notice (“**MNSN**”) issued by the NIAC.
2. Any MNSN issued by the NIAC shall be objective, transparent and proportionate and shall contain a minimum of the following information, arrived at in accordance with industry best practices:
  - 2.1. Technical specifications including, without limitation:
    - 2.1.1. Network capacity, which shall be determined by taking into account the projected growth in demand for High-Speed Communications Networks over a 20 year period, which projection shall be determined by the NIAC each year in consultation with industry experts and made publically available;
    - 2.1.2. The proposed network architecture including, without limitation, network depth, construction and related facilities including inspection chambers, man holes, pull tapes and general access and maintenance facilities.
  - 2.2. Formulas for the basis of compensation for the Network Operator for complying with the MNSN including identification of the source of the funding for the MNSN.
  - 2.3. Terms and conditions of access, including information access and transparent, non-discriminatory cost based pricing formulas, for Communications Network Providers wishing to connect to the new Network Infrastructure created in accordance with the MNSN.
3. The NIAC shall add any MNSNs to the Register of Network Infrastructure set out in Article 6 and publish any MNSNs on the Register of Available HSCN Capacity in accordance with Article 7, both within 10 working days of the issue of any MNSN.
4. The NIAC may, for transparent and non-discriminatory reasons, make exceptions to the requirements of this Article for reasons including, but not limited to, national security, public health and safety or the insignificance of the scope, duration or value of the proposed Civil Works.
5. Any dispute concerning an MNSN between a Network Operator and the NIAC shall be referred to the NIAC for arbitration in accordance with Article 11.

### Article 5: Modification of Existing Infrastructure

1. Where proposed modifications to existing Infrastructure by or on behalf of any Network Operator amounts to Civil Works (**“Infrastructure Modifications”**), the Licence to conduct such Infrastructure Modifications shall be conditional upon either:
  - 1.1. the incorporation into the Infrastructure Modifications of Network Infrastructure capable of supporting components of High-Speed Communications Networks in accordance with a Minimum Network Specification Notice issued by the NIAC in accordance with Article 4; or
  - 1.2. at the transparent and non-discriminatory discretion of the NIAC, a requirement to notify Communications Networks Providers of the proposed Infrastructure Modifications with a view to their considering participating in the Infrastructure Modifications for the purpose of implementing components of High-Speed Communication Networks.
2. The proposed Infrastructure Modifications shall be registered with the NIAC using the appropriate NIAC Infrastructure Modification form, the format of which shall be determined by the NIAC, for inclusion in the Register of Network Infrastructure within 5 working days of the Licence application relating to such modifications.
3. Communications Networks Providers having the right to review the proposed Infrastructure Modifications pursuant to paragraph 1.2. above shall have 30 working days from the date of notification to apply to participate in the Infrastructure Modifications. Any such application shall be conducted in accordance with the terms set out in Article 3.
4. The NIAC may, for transparent and non-discriminatory reasons, make exceptions to the requirements of this Article for reasons including, but not limited to, national security, public health and safety or the insignificance of the scope, duration or value of the proposed Civil Works.
5. Any dispute between a Network Operator and the NIAC shall be referred to the NIAC for arbitration in accordance with Article 11.



## Model Law On DigOnce!

### Article 6: Register of Network Infrastructure

1. All Network Operators shall be required to register with the NIAC.
2. Network Operators shall provide and the NIAC shall maintain a register of the Network Infrastructure components of all registered Network Operators (**“Register of Network Infrastructure”**).
3. Network Operators shall complete a Network Infrastructure Component (**“NIC”**) form within 30 working days of having registered with the NIAC, the format of which shall be determined by the NIAC and which shall include, but not be limited to:
  - 3.1. Maps and specifications of network routes, network architecture, Network Infrastructure assets including their age, current use of the Network, maintenance access facilities (all in electronic format) and a single point of contact.
  - 3.2. Where such information is not available in electronic format, the Network Operator shall provide such information in electronic format within 150 working days of having registered with the NIAC or, if so requested by the NIAC, render the information into electronic format and provide to the NIAC within 40 working days of such a request having been received.
4. Communications Network Providers shall be entitled to apply to the NIAC to access information on the Register of Network Infrastructure, on a confidential basis, once they have completed an initial Request for Access form pursuant to paragraph 3 of Article 3, which request shall specify in approximate terms, the relevant components of the Network Operator’s Network.
5. The NIAC may, for transparent and non-discriminatory reasons, make exceptions to the requirements of this Article for reasons including, but not limited to, national security, public health and safety, commercially sensitive intellectual property or the insignificance of the scope or value of Network Infrastructure concerned.
6. Releasing information to a Communications Network Provider shall be at the discretion of the NIAC, which discretion shall be exercised on a non-discriminatory and transparent basis.
7. In the event that Network Operators refuse to provide adequate or any information for the Register of Network Infrastructure, the NIAC may impose and enforce fines in accordance with Article 11.
8. Any dispute between a Network Operator and the NIAC shall be referred to the NIAC for arbitration in accordance with Article 11.

### Article 7: Register of Available HSCN Capacity

1. Where the NIAC has issued a Minimum Network Specification Notice pursuant to Articles 4 or 5 requiring a Network Operator to incorporate Network Infrastructure capable of supporting components of High-Speed Communication Networks into New Infrastructure or into Infrastructure Modifications (**“New HSCN Capacity”**), the NIAC shall keep and publish a register of such New HSCN Capacity (**“HSCN Register”**). The Register shall include but not be limited to:
  - 1.1. Full details specified in the Minimum Network Specification Notice as set out in Article 4 including, without limitation, the proposed network capacity, network architecture and related facilitates;
  - 1.2. Expected duration of the Civil Works and estimated date of availability of such New HSCN Capacity; and
  - 1.3. Terms and conditions of third party access.
2. Network Operators shall have the right to advise the NIAC of any available Network Infrastructure capable of supporting components of High-Speed Communication Networks they may have or propose to have, arising independently of the issue of Minimum Network Specification Notices, for inclusion in the HSCN Register (**“Additional HSCN Capacity”**).
3. The NIAC shall add information concerning any New HSCN Capacity (save for any such capacity that is privately funded and reserved for use, whether by the Network Operator or otherwise) or Additional HSCN Capacity, to the HSCN Register within 10 working days of any Minimum Network Specification Notice being issued or notification received of any Additional HSCN Capacity. The contents of the HSCN Register shall be published and made available to all Network Operators registered with the NIAC.
4. Communications Network Providers shall have the right to apply to the Network Operators on the HSCN Register with a view to assessing whether any available capacity on the HSCN Register is suitable for their purposes. Any such application shall be conducted in accordance with the terms set out in Article 3.

### Article 8: Register of Civil Works

1. Every Network Operator shall have the right to coordinate Civil Works with Communications Network Providers wishing to implement components of High-Speed Communications Networks.
2. Civil Works Register
  - 2.1. The NIAC shall create a Register of Civil Works for the purpose of facilitating the coordination of Civil Works that are relevant to Network Infrastructure capable of supporting components of High-Speed Communication Networks. The contents of the Register of Civil Works shall be made available by electronic means to NIAC registered Network Operators.
  - 2.2. Civil Works that are to be conducted by or on behalf of Network Operators shall be registered with the NIAC as soon as practicable and in any event at least 30 working days before the first related Licence application is made in respect of such Civil Works. Registrations shall be in electronic format using the NIAC Civil Works Registration (“**CWR**”) form, the format of which shall be determined by the NIAC. The CWR form shall include at least the same information as is required for related Licence applications including without limitation:
    - 2.2.1. Location and type of works clearly marked on a map;
    - 2.2.2. Details of the Network Infrastructure involved;
    - 2.2.3. Estimated start date and duration of the proposed works; and
    - 2.2.4. A single contact point.
3. The NIAC may, for transparent and non-discriminatory reasons, make exceptions to the requirements of this Article for reasons including, but not limited to, national security, public health and safety or the insignificance of the scope, duration or value of the proposed Civil Works.
4. Any dispute between a Network Operator and the NIAC shall be referred to the NIAC for arbitration in accordance with Article 11.

### Article 9: Control of Civil Works

#### 1. Coordination of Civil Works

- 1.1. The Licence to conduct Civil Works shall be conditional upon a requirement to coordinate Civil Works in accordance with a Civil Works Coordination Notice (“**CWCN**”) issued by the NIAC.
- 1.2. Any such CWCN issued by the NIAC shall be objective, transparent and proportionate and shall contain a clear explanation of the grounds for the issue of the notice taking into account industry best practices and the terms of such coordination.
- 1.3. The NIAC may, for transparent and non-discriminatory reasons, make exceptions to the requirements of this Article for reasons including, but not limited to, national security, public health and safety or the insignificance of the scope, duration or value of the proposed Civil Works.
- 1.4. If no such CWCN is issued within 30 working days of Civil Works being registered with the Register of Civil Works, Network Operators shall, for a further 30 working days, meet any reasonable request to coordinate Civil Works from Communications Network Providers wishing to deploy components of High-Speed Networks on transparent and non-discriminatory terms. Where such terms cannot be agreed upon within 20 working days, the case may be referred to the NIAC for arbitration which shall be conducted in accordance with Article 11.

#### 2. Prevention of Civil Works

- 2.1. The NIAC may, in the absence of being advised of sound reasons based on industry best practice for not doing so, seek to prevent Civil Works by refusing consent to a Licence where, in the case of a Communications Network Provider seeking to implement components of High-Speed Communications Networks:
  - 2.1.1. in the transparent and non-discriminatory opinion of the NIAC, there is already sufficient spare and appropriate High-Speed Communications Network capacity available to the Communications Network Provider as evidenced by the HSCN Register, or
  - 2.1.2. The Communications Network Provider is seeking to conduct Civil Works involving a public highway or other public place which has been the subject of Civil Works by a Network Operator in the previous [six] months and the Communications Network Provider was aware of such Civil Works in that it was a matter of record on the Civil Works Register and, as such, had an adequate opportunity to apply to coordinate Civil Works at that time.



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3. Dispute resolution
  - 3.1. Any dispute between a Network Operator and the NIAC shall be referred to the NIAC for arbitration in accordance with Article 11.

### Article 10: Network Access Points

1. Right to Access Network Access Points, Subject to Consent
  - 1.1. Communications Network Providers shall have the right to roll out their Networks, at their own cost, up to Network Access Points ("NAP"), whether within or outside any building or premises, subject to getting any necessary consents to do so from the entity or entities controlling access to the NAP.
  - 1.2. Any entity or entities controlling access to a NAP shall meet all reasonable requests for access from Communications Network Providers on fair and non-discriminatory terms and conditions including price, except where they can demonstrate that a commercially viable NAP alternative exists or that to consent would be contrary to the interests of national security, public health or safety or commercially sensitive intellectual property.
  - 1.3. Where such access is not granted within 20 working days, Communications Network Providers may refer the case to the NIAC for arbitration, which shall be conducted in accordance with Article 11.
2. Right to Create Network Access Points, Subject to Consent
  - 2.1. Where, in order to deliver a Network Service to a subscriber, Communications Network Providers require to create a new NAP, Communications Network Providers shall have the right to create such NAP, at their own cost, whether within or outside any building or premises, subject to getting any necessary consents to do so from the entity or entities controlling access to the proposed location of the new NAP.
  - 2.2. Any entity or entities controlling access to such proposed NAP location shall meet all reasonable requests for access from Communications Network Providers on fair and non-discriminatory terms and conditions including price, except where they can demonstrate that a commercially viable NAP alternative exists or that to consent would be contrary to the interests of national security, public health or safety or commercially sensitive intellectual property.

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- 2.3. Where such access is not granted within 20 working days, Communications Network Providers may refer the case to the NIAC for arbitration, which shall be conducted in accordance with Article 11.
  
3. Network Access Points and Conduits in New or Renovated Buildings
  - 3.1. All buildings constructed after [date], whether publically or privately funded or whether for commercial, civic, or residential use (including multi-purpose dwellings) shall, as a condition of their Licence to build, be equipped with sufficient NAPs and High-Speed Network compatible conduits so as to make the building High-Speed Network ready; and
  - 3.2. all such buildings, if built before [the same date] but renovated after such date and with such renovations amounting to Civil Works, the Licence to conduct such Civil Works shall be conditional upon the renovated building being equipped with sufficient NAPs and empty High-Speed Network compatible conduits so as to make the building High-Speed Network ready.
  - 3.3. For the purposes of this Article 10, paragraph 3, NAPs and High-Speed Network compatible conduits shall, to the extent technically possible and in accordance with best industry practices, be of the same design and specification without discrimination between Communications Network Providers, shall be suitable for use by and connection to High-Speed Communications Networks and shall be specified from time to time by the NIAC.
  - 3.4. The NIAC may, for transparent and non-discriminatory reasons, make exceptions to the requirements of this Article for reasons including, but not limited to, national security, public health and safety, the insignificance of the scope, duration or value of the proposed Civil Works, or for reasons of conservation or preservation of national heritage.

### Article 11: Network Implementation and Arbitration Council

1. The Network Implementation and Arbitration Council shall be a publically funded statutory body, acting in all regards independently of the Network Operators. The principal purpose of the NIAC is to accelerate the roll out of High-Speed Communications Networks including but not limited to:
  - 1.1. Optimising opportunities for Network Operators to implement components of High-Speed Communications Networks more rapidly;
  - 1.2. Maintaining centralised electronic Registers of Network Infrastructure, HSCN Capacity and Civil Works and coordinating Civil Works with a view to increasing the speed and reducing the cost and environmental impact of implementing components of High-Speed Communications Networks;
  - 1.3. Ensuring that Network Operators can deliver Network Services to Subscribers by permitting access to NAPs and ensuring that buildings shall be HSCN ready;
  - 1.4. Resolving disputes between Network Operators relating to implementing components of High-Speed Communications Networks;
2. The NIAC may impose and enforce fines on Network Operators for non-compliance with NIAC regulations which fines shall be proportionate, non-discriminatory and transparent.
3. The NIAC may charge proportionate, non-discriminatory fees for all of its services to cover the costs of the functions it is required to undertake.
4. The NIAC shall resolve matters referred to it for arbitration as soon as practicable and in any event within 50 working days from the receipt by the NIAC of any such referral. The decisions of the NIAC shall be based on objective, transparent and proportionate criteria taking into account industry best practices and shall be legally binding. Without prejudice to a general right of appeal to a court of competent jurisdiction on a point of law, the NIAC may, in exceptional cases and at its discretion, refer cases to a court of competent jurisdiction for resolution.
5. The NIAC shall comprise two distinct and independently managed, operated and funded divisions:
  - 5.1. 'NIAC Operations' which shall be responsible for all activities of the NIAC save for the arbitration function referred to in this Article and
  - 5.2. 'NIAC Arbitration' which shall be responsible for processing all matters referred to the NIAC for arbitration
  - 5.3. For the avoidance of doubt, both NIAC divisions shall have the power to impose and enforce fines in accordance with paragraph 2 and to charge fees in accordance with paragraph 3 of this Article.