



City of Dublin

**Office of the City Manager**

5200 Emerald Parkway • Dublin, OH 43017-1090

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# Memo

**To:** Members of Dublin City Council  
**From:** Marsha I. Grigsby, City Manager   
**Date:** September 18, 2014  
**Initiated By:** Dana McDaniel, Development Director  
**Re:** Resolution 81-14 - Indefeasible Right to Use Agreement with Battelle

## Summary

The City of Dublin previously allocated the use of two (2) optical fibers to Battelle as part of an initial IRU in 2005. This IRU attracted the current Battelle operations on Paul Blazer Parkway. These dedicated fiber optics connected the Dublin operations to the Battelle Main office in Columbus.

Battelle has requested the use of an additional two (2) optical fibers for a short term (three years with an option for an additional two years right to use period) for a portion of the dubLINK system. Per the attached press release, Battelle intends to use the fiber optics to operate and test the first Quantum Key Distribution Network in the United States. According to Battelle in a recent press release:

*Battelle experts believe data encrypted by using existing key technologies will become vulnerable once quantum computers are mainstream in the near future. According to recent revelations, some aspects of current secure communications encryption technology already have been compromised by U.S. and British governments. While products based on QKD technology already are being used by banks and governments in Europe—especially Switzerland, home of ID Quantique's headquarters—they have not been widely deployed commercially in the United States.*

Essentially, the project will be the first in the U.S. to test the ability to protect data while being transferred in route on fiber optics. This will have potentially many commercial applications. This press release (attached) was issued ahead of official authorization by City Council because they will leverage the fiber from the initial IRU Agreement to operate the tests. The IRU Agreement to be authorized by Resolution 81-14 provides additional fiber in the northernmost loop of the fiber route, as depicted on the attached map. Battelle Scientist will route data traffic in a loop fashion multiple times around this northernmost loop, giving them many more miles of testing capability. The City possesses the additional capacity within its dubLINK fiber optic bundle, particularly in this northernmost loop, to accommodate this request. The fiber that would be provided is from Dublin's unallocated reserve of optical fibers. The term for the use of these additional optical fibers will be coterminous with the existing Agreement. The Addendum to the Optical Fiber Use Agreement is attached.

Battelle's use of fiber optics in this fashion demonstrates dubLINK as a highly valued research and development platform. Additionally, the City continues to gain recognition on a global level for making such an asset available to high end users such as Battelle and continuing to leverage and promote dubLINK in this fashion to develop potential attraction opportunities.

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**Recommendation**

Staff recommends Council pass Resolution 81-14, authorizing the City Manager to enter into an Indefeasible Right to Use (IRU) Agreement with Battelle. Please contact Dana McDaniel with any questions.

# BATTELLE NEWS RELEASE

## **Battelle to Use Dublin's Fiber Optic Ring to Test Secure Data Transfer Hardware**

### ***Local city allocates in-ground fibers for QKD verification***

COLUMBUS, Ohio (Aug. xx, 2014)—[Battelle](#) has reached a five-year agreement with neighboring Dublin to use part of the city's fiber optic network for free so scientists can test Quantum Key Distribution (QKD) hardware to prove its real-world effectiveness in safe data transfer. The research will be aided by the developer of the QKD hardware, [ID Quantique](#).



The deal also allows for other researchers and businesses to join Battelle in using dubLINK, a 100-kilometer ring of in-ground fiber optic cable circling central Ohio. Additional fibers in a 25-kilometer ring belonging to Dublin also will be available, allowing researchers in quantum communication to perform real-world testing on advanced hardware on a cable test bed up to 400 kilometers in length.

“Dublin is a forward-thinking city, and the people there are generous to allow us to perform this testing,” said Don Hayford, Senior Research Leader in charge of Battelle’s QKD program. “This is an important step forward, not only for testing our hardware and strengthening our network, but for providing a place for QKD developers to prove out their hardware.”

Currently, Battelle already is using its own 1 gigabit, 62-kilometer QKD network between its headquarters in Columbus and manufacturing offices in Dublin, one of the first commercial applications in the United States. Information such as financial reports, intellectual property, drawings, designs and more are transferred between those facilities. Plans call for other

Battelle offices in central Ohio and Washington D.C. to be connected in the future, but for now, the use of dubLINK allows for testing in a more robust, real-world setting.

Testing will begin early next year and scientists will be examining such specific data transfer subjects as key rates, quantum bit error rates and how QKD signals could merge and co-exist on the same fiber with existing telecommunications.

Battelle experts believe data encrypted by using existing key technologies will become vulnerable once quantum computers are mainstream in the near future. According to recent revelations, some aspects of current secure communications encryption technology already have been compromised by U.S. and British governments. While products based on QKD technology already are being used by banks and governments in Europe—especially Switzerland, home of ID Quantique’s headquarters—they have not been widely deployed commercially in the United States.

Fiber optic cables limit the delivery of photons to about 60 miles, so a place as large as the United States poses an installation problem. In order to extend the protected reach, repeaters, or “trusted nodes,” must be established. “This is one reason why testing on dubLINK is so important. Battelle is developing a scalable architecture with ID Quantique—including these trusted nodes—that will enable QKD to operate at any distance, making large scale implementation possible and practical, said Hayford.”

### **About Battelle**

Every day, the people of [Battelle](#) apply science and technology to solving what matters most. At major technology centers and national laboratories around the world, Battelle conducts research and development, designs and manufactures products, and delivers critical services for government and commercial customers. Headquartered in Columbus, Ohio since its founding in 1929, Battelle serves the national security, health and life sciences, and energy and environmental industries. For more information, visit [www.battelle.org](http://www.battelle.org).

### **Media Contacts**

For more information contact Katy Delaney at (614) 424-7208 or [delaneyk@battelle.org](mailto:delaneyk@battelle.org) or T.R. Massey at (614) 424-5544 or [masseytr@battelle.org](mailto:masseytr@battelle.org).

# RECORD OF RESOLUTIONS

Dayton Legal Blank, Inc., Form No. 30045

**81-14**

Resolution No. \_\_\_\_\_ Passed \_\_\_\_\_, 20\_\_\_\_

**RESOLUTION AUTHORIZING THE CITY MANAGER  
TO ENTER INTO AN INDEFEASIBLE RIGHT TO USE  
AGREEMENT WITH BATTELLE MEMORIAL  
INSTITUTE**

**WHEREAS**, the City of Dublin has previously authorized Battelle Memorial Institute to utilize its underground optical fiber system; and

**WHEREAS**, Battelle Memorial Institute desires to obtain additional fibers for the purpose of performing research regarding the encryption of information transmitted by fiber optics; and

**WHEREAS**, Battelle Memorial Institute is a significant employer in the City of Dublin and has been an exemplary corporate citizen; and

**WHEREAS**, the City of Dublin has fibers available for this purpose.

**NOW, THEREFORE, BE IT RESOLVED** by the City Council of the City of Dublin, State of Ohio \_\_\_\_\_ of the elected members concurring, that:

Section 1. The City Manager is hereby authorized to execute an Indefeasible Right to Use Agreement, which will permit Battelle Memorial Institute to perform research, using two fibers in the Dublin Fiber System.

Section 2. Said Indefeasible Right to Use Agreement shall be for a period of three years with an option to extend for an additional two years and at no cost to Battelle.

Section 3. This Resolution shall be effective upon passage in accordance with Section 4.04(a) of the Revised Charter.

Passed this \_\_\_\_\_ day of \_\_\_\_\_, 2014.

\_\_\_\_\_  
Mayor – Presiding Officer

ATTEST:

\_\_\_\_\_  
Clerk of Council

**CITY OF DUBLIN, OHIO**  
**INDEFEASABLE RIGHT-TO-USE AGREEMENT**

THIS INDEFEASABLE RIGHT-TO-USE AGREEMENT is made and entered into as of the \_\_\_\_ day of \_\_\_\_\_, 2014, between the City of Dublin, Ohio, an Ohio municipal corporation (hereinafter referred to as the "Owner"), having an office at 5200 Emerald Parkway, Dublin, Ohio 43017-1006, and Battelle Memorial Institute, an Ohio non-profit corporation (hereinafter referred to as "User"), having an office at 5160 Blazer Parkway, Dublin, Ohio 43016, Owner and User referred to individually as "Party" and collectively as "Parties."

WITNESSETH:

WHEREAS, the Owner has an existing optical fiber system (hereinafter referred to as the "Fiber System" and further defined in Section 1.1(b)) throughout the City of Dublin, Ohio and the greater Columbus, Ohio metropolitan area;

WHEREAS, the Owner is willing to grant User an indefeasible right of use (hereinafter referred to as "IRU") in and to some fibers within the Fiber System to allow User to perform experiments regarding security encryption and other research;

WHEREAS, User has obtained any and all permits or approvals required to engage in its intended purpose and for the use and occupancy of space in the rights of way and further agrees to adhere to any and all requirements of federal, state and local laws, rules or regulations (specifically inclusive of, but not limited to, Chapter 98 of the Codified Ordinances of the City of Dublin, Ohio);

WHEREAS, the Parties have agreed to enter into this Agreement which embodies the mutual covenants and agreements between the Parties hereto; and

WHEREAS, the Parties may in the future agree to enter into additional separate agreement(s) for additional and/or separate optical fiber uses which shall incorporate the covenants and agreements of this Agreement and which shall also set forth the terms and provisions unique to each additional or different specific project.

NOW, THEREFORE, pursuant to the terms of any right of way occupancy requirement and/or Construction Permit required by Chapter 98 of the Codified Ordinances of the City of Dublin, Ohio, for and in consideration of the mutual covenants and agreements set forth in this Agreement, the Parties hereto do hereby agree as follows:

1. **DEFINITIONS.**

1.1 The following terms, whether in the singular or in the plural, when used in this Agreement and initially capitalized, shall have the meanings specified:

- a. **Agreement:** This Indefeasible Right-to-Use Agreement between the Owner and User, which identifies the specific optical fiber strands and facilities to be provided to User by Owner, and which set forth the terms and conditions for User's use of such optical fiber strands and facilities.

- b. Fiber System: The optical fiber strands, innerduct, conduit, building entrance facilities, associated appurtenances, and capacity owned by the Owner and located throughout the rights of way of the City of Dublin, Ohio and the greater Columbus, Ohio metropolitan area (a map of which is attached hereto as Exhibit "A").

2. GRANT.

2.1 The Owner hereby grants to User an IRU of the following Fiber System components. Owner warrants that it has all rights necessary to make such a grant to User.

- a. Two (2) strands of fiber optic cable in the Fiber System. The exact route and fibers will be determined by Dublink Development Company LLC and once determined the route and fibers will be described in Exhibit A-1.

3. TERM.

3.1 The Term shall commence upon execution of this agreement (hereinafter referred to as the "Commencement Date"), and shall expire three years later or October 1, 2017, whichever is earlier (hereinafter referred to as the "Expiration Date"). This IRU may be extended for an additional two years upon mutual agreement of the Parties.

4. CONSIDERATION.

4.1 As consideration for, as inducement to, and as a required condition of Owner granting User the specific rights to use portions of the Fiber System (hereinafter referred to as the "User System") as described herein, the User hereby agrees that any failure of User to satisfy the terms and conditions of this Agreement shall be considered a material breach of this Agreement and Owner may then terminate this Agreement upon giving sixty (60) days written notice to User.

5. OWNERS OBLIGATIONS.

5.1 Owner shall:

- a. Grant the User an IRU in accordance with the terms of this Agreement.
- b. Provide and/or control maintenance and repair functions on the User System and all facilities in the Fiber System through which the User System passes, including, but not limited to, conduit, innerduct, poles and equipment, all work shall be performed under the direction of the Owner.

6. USER OBLIGATIONS.

6.1 User shall:

- a. Provide and pay for lateral connectivity from necessary termination points of User's proprietary fiber and equipment to the necessary demarcation points of the Fiber System.
- b. Pay for any building or external network service connection and disconnection charges for each building service added or deleted before, during or after the initial establishment and cutover of a User System fiber segment. User shall be responsible for any and all costs associated with lateral connectivity to the Fiber System and shall pay for the costs of all splicing, distribution segment, service connections, head end equipment, and any ring or concentrator operations.
- c. If performing any splicing in the User System, utilize the services of Columbus Fibernet, LLC (Fishel) to perform the splicing.
- d. Pay all necessary costs if the User requires installation of a new distribution ring or concentrator in an already established Fiber System or User System distribution segment, rearrangement of existing service connections, and rearrangement of a ring or concentrator operation. Owner's management agent's current charges and application rules are identified in Exhibit C attached hereto.
- e. Not use the User System provided in this Agreement to provide services to carriers or service providers without the prior written consent of the Owner. User also agrees that it shall not sublease or subdivide the User System. User further agrees to continually meet the requirements of this Agreement. In the event of any breach of the provisions contained in this Section, the Owner has the right to terminate this Agreement upon giving thirty (30) days written notice to User.
- f. Pay any and all maintenance costs as may be required to be paid by User pursuant to the requirements of Section 8.1(a-c) below.
- g. Pay any costs associated with disconnecting from the Fiber System, and shall ensure that the User System, including the strands of fiber and any associated appurtenances, are left in the condition that existed prior to the User connecting to the Fiber System. User agrees that should the Owner determine, in the Owner's sole discretion, that upon disconnection User has not left the User System in the condition that existed prior to the User connecting to the Fiber System, the Owner shall restore and repair the User System at the sole cost and expense of User.

7. JOINT OBLIGATIONS.

7.1 The Owner and User jointly:

- a. Agree that within sixty (60) days of final execution of this Agreement the Parties shall agree upon an acceptance plan for User's initial activation and the "go-live" of User's System.
- b. Shall provide each other a twenty-four (24) hour a day, three hundred sixty-five (365) days per year, coordination telephone number.

8. MAINTENANCE.

8.1 All maintenance and repair functions on the User System and all facilities through which the User System passes, including, but not limited to, conduit, innerduct, poles, and equipment, but specifically excluding all User owned and controlled opto-electronics, shall be performed by or at the direction of the Owner or Owner's appointed agent with reasonable notice to User. Except as otherwise may be agreed to by the parties, User is prohibited from performing any maintenance or repair on the Fiber System or User System. User shall have the right to have an employee or representative available to assist the Owner in any maintenance or repair of the User System. The Owner shall maintain the User System in accordance with the technical specifications (hereinafter referred to as the "Specifications") attached hereto in Exhibit "B".

- a. Regular Maintenance: Owner may from time to time undertake and provide for regular maintenance activities ("Regular Maintenance") in an attempt to keep the Fiber System and/or User System in good working order and repair so that it performs to a standard equal to that which is then commonly believed to be acceptable for systems of similar construction, location, use and type. Such Regular Maintenance shall be performed at the Owner's sole cost, and expense.
- b. Scheduled Maintenance: The Owner from time to time may schedule and perform specific periodic maintenance to protect the integrity of the Fiber System and/or User System and perform changes or modifications to the Fiber System and/or User System (including but not limited to fiber slicing, etc.) at the User's request ("Scheduled Maintenance"). Such User requested Scheduled Maintenance shall be performed at the User's sole cost and expense. User may request such Scheduled Maintenance by delivering to the Owner a Statement of Work detailing the service User desires to be performed, including the time schedule for such services. Upon receipt of such a Statement of Work, the Owner shall provide an estimate of the price and timing of such Scheduled Maintenance. Following User's acceptance of such estimate, the Owner will schedule and have such Scheduled Maintenance performed. The Owner shall have such Scheduled Maintenance performed on a time-and-materials basis at the standard rates in then effect at the time services are performed. Rates in effect shall be those identified

in Exhibit "C", attached hereto, with the understanding that such rates are subject to change at any time.

- c. **Emergency Maintenance:** The Owner may undertake and provide for emergency maintenance and repair activities for the Fiber System and/or User System ("Emergency Maintenance"). Where necessary, the Owner shall attempt to respond to any failure, interruption or impairment in the operation of the User System within twenty-four (24) hours after receiving a report of any such failure, interruption or impairment. The Owner shall use its best efforts to perform maintenance and repair to correct any failure, interruption or impairment in the operation of the User System when reported by User in accordance with the procedures set forth in this Agreement. User shall be responsible for the costs and expenses associated with such Emergency Maintenance as it relates to User's actual use of the User System and/or Fiber System requiring such Emergency Maintenance. The Owner shall have such Emergency Maintenance performed on a time-and-materials basis at the emergency maintenance rates then in effect at the time services are performed

8.2 In the event the Owner, or others acting in the Owner's behalf, at any time during the Term of this Agreement, discontinues maintenance and/or repair of the User Systems, User, or any party acting in User's behalf, shall have the right, but not the obligation, to thereafter provide for any maintenance and repair of the User System, at the User's sole cost and expense. Any such discontinuance by the Owner shall be upon not less than six (6) months prior written notice to User. In the event of such discontinuance, the Owner shall obtain for User, approval for adequate access to the rights of way in, on, across, along or through which the User System is located, for the purpose of permitting User (or others acting in User's behalf) to undertake such maintenance and repair of the User System. As an alternate remedy, User may elect to terminate this Agreement.

8.3 In the event any failure, interruption or impairment adversely affects both the Owner's Fiber System and the User System, restoration of the User System shall at all times be subordinate to restoration of the Owner's Fiber System with special priority for Owner's public safety and municipal infrastructure functions carried over the Fiber System, unless otherwise agreed to in advance by the parties hereto. In such event or in the event the Owner is unable to provide timely repair service to the User System, the Owner may, following written request, permit User to make repairs to restore the User System as long as such restoration efforts do not interfere with the Owner's restoration activities.

8.4 Any User subcontractors or employees who undertake repair or maintenance work on the User System shall first be approved by the Owner to work on the Owner's Fiber System. Prior to User's undertaking Emergency Maintenance or entering an Owner's facility for repair, User shall first notify the Owner of the contemplated action and receive the Owner's concurrence decision, a decision that the Owner shall provide to User no later than twelve (12) hours from User's notification to Owner of contemplated action. When User undertakes Emergency Maintenance of the User System, User shall have an Owner employee or representative available to assist the User in any repair of the User System.

9. USE OF THE USER SYSTEM.

9.1 User shall have exclusive control over its provision of research, telecommunications, video, data, and/or information services.

9.2 User hereby certifies that it is authorized or shall be authorized, where required, on the effective date of this Agreement, to provide telecommunications, video, data, and/or information services within the State of Ohio, the City of Dublin, Ohio and in such other jurisdictions as the User System may exist, and that such services can be provided on the Fiber optic cable systems such as the Fiber System owned and operated by the Owner.

9.3 User understands and acknowledges that its use of the Fiber System and User System are subject to all applicable local, state and federal laws, rules and regulations, as enacted, either currently or in the future, in the jurisdictions in which the Fiber System and User System are located. User represents and warrants that it shall operate on the Fiber System and User System subject to, and in accordance with, all laws, rules and regulations and shall secure all permits, approvals, and authorizations from all such jurisdictional entities as may be necessary.

10. INDEMNIFICATION.

10.1 The User undertakes and agrees to protect, indemnify, defend, and hold harmless the Owner and all of its elected officials, officers and employees, agents and volunteers from and against any and all suits and causes of action, claims, charges, damages, demands, judgments, civil fines, penalties, costs, attorneys fees and costs, expenses or losses of any kind or nature whatsoever, for death, bodily injury or personal injury to any person, including User's employees and agents, or damage or destruction to any property of either party hereto, or third persons in any manner arising by reason of the negligent acts, errors, omissions or willful misconduct incident to the performance of this Agreement, or use of the Fiber System on the part of the User, or the User's officers, agents, employees, or subcontractors, except for the active negligence or willful misconduct of the Owner, and its elected officials, officers, employees, agents and volunteers. User's indemnity requirements for its conduct herein shall also specifically include all claims of intellectual property, copyright or trademark infringement, or any other breach of this Agreement made by third parties against Owner.

11. INSURANCE.

11.1 During the Term of this Agreement, unless otherwise agreed to in writing by the authorized representatives, User shall at its own expense, maintain in effect, insurance coverage with limits not less than those set forth herein.

11.2 The User shall furnish the Owner's authorized representative within thirty (30) days after the Commencement Date of the Agreement with insurance endorsements acceptable to Owner's Director of Law. The endorsements shall be evidence that the policies providing coverage and limits of insurance are in full force and effect. Such insurance shall be maintained by the User at the User's sole cost and expense.

11.3 The User endorsements shall name the Owner and all of its elected officials, officers and employees, agents and volunteers as additional insureds. The endorsements shall also contain a provision that the policy cannot be canceled or reduced in coverage or amount without first giving thirty (30) calendar days written notice thereof by registered mail to the Owner at the following address:

City of Dublin  
Law Director  
Frost Brown Todd  
Stephen J. Smith, Sr.  
10 W. Broad Street  
Columbus, Ohio 43215

11.4 Such insurance shall not limit or qualify the obligations the User assumed under the Agreement. The Owner shall not by reason of its inclusion under these policies incur liability to the insurance carrier for payment of the premium for these policies.

11.5 Any insurance or other liability protection carried or possessed by the Owner, which may be applicable, shall be deemed to be excess insurance and the User's insurance is primary for all purposes despite any conflicting provision in the User's policies to the contrary.

11.6 User shall be responsible for all User contractors' or subcontractors' compliance with the insurance requirements.

11.7 Failure of the User to maintain such insurance, or to provide such endorsements to the Owner when due, shall be an event of default under the provisions of this Agreement.

11.8 The User shall obtain and maintain Commercial General Liability Insurance, including the following coverages: Product liability hazard of User's premises/operations (including explosion, collapse and underground coverages); independent contractors; products and completed operations (extending for one (1) year after the termination of this Agreement); blanket contractual liability (covering the liability assumed in this Agreement); personal injury (including death); and broad form property damage. Such coverage shall provide coverage for total limits actually arranged by the User but not less than Two Million Dollars and No Cents (US\$2,000,000.00) combined single limit. Should the policy have an aggregate limit, such aggregate limits should not be less than double the combined single limit and be specific for this Agreement. Umbrella or Excess Liability coverages may be used to supplement primary coverages to meet the required limits. Evidence of such coverage shall be in a form acceptable to the Owner's Director of Law.

11.9 The User shall provide Workers' Compensation insurance covering all of the User's employees in accordance with the laws of the state of Ohio.

11.10 The User may use an Umbrella or Excess Liability coverage to net coverage limits specified in the Agreement. Evidence of Excess Liability shall be in a form acceptable to Owners Director of Law.

11.11 The foregoing insurance requirements are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the User under this Agreement.

12. DEFAULT.

12.1 Unless otherwise specified in this Agreement, User shall not be in default under this Agreement, or in breach of any provision hereof unless and until the Owner shall have given User written notice of a breach and User shall have failed to cure the same within thirty (30) days after receipt of a notice; provided, however, that where such breach cannot reasonably be cured within such thirty (30) day period, if User shall proceed promptly to cure the same and prosecute such curing with due diligence, the time for curing such breach shall be extended for a reasonable period of time to complete such curing. Upon the failure by User to timely cure any such breach after notice thereof from the Owner, the Owner shall have the right to take such action as it may determine, in its sole discretion, to be necessary to cure the breach or terminate this Agreement or pursue such other remedies as may be provided at law or in equity.

12.2 Unless otherwise specified in this Agreement, the Owner shall not be in default under this Agreement or in breach of any provision hereof unless and until User shall have given the Owner written notice of such breach and the Owner shall have failed to cure the same within thirty (30) days after receipt of such notice; provided, however, that where such breach cannot be reasonably be cured within such thirty (30) day period, if the Owner shall proceed promptly to cure the same and prosecute such curing with due diligence, the time for curing such breach shall be extended for a reasonable period of time to complete such curing. Upon the failure by the Owner to timely cure any such breach after notice thereof from User, User shall have the right to take such action as it may determine, in its sole discretion, to be necessary to cure the breach or terminate this Agreement or pursue other remedies as may be provided at law or in equity.

12.3 If User should file a petition in bankruptcy or for reorganization or for an arrangement pursuant to any present or future federal or state bankruptcy law or under any similar federal or state law, or should be adjudicated bankrupt or insolvent, or should make a general assignment for the benefit of its creditors, or shall admit in writing its inability to pay its debts generally as they become due, or if any involuntary petition proposing the adjudication of User, as a bankrupt or its reorganization under any present or future federal or state bankruptcy law or any similar federal or state law should be filed in any court and such petition shall not be discharged or denied within ninety (90) days after the filing thereof, or if a receiver, trustee or liquidator of all or substantially all of the assets of User shall be appointed then the Owner may, at its sole option, immediately terminate this Agreement.

13. FORCE MAJEURE.

13.1 Neither Party shall be liable to the other for any failure of performance under this Agreement due to causes beyond its control (except for the fulfillment of payment obligations as set forth herein), including, but not limited to: acts of God, fire, flood, earthquake or other catastrophes; adverse weather conditions; material or facility

shortages or unavailability not resulting from such Party's failure to timely place orders therefor; lack of transportation; national emergencies; insurrections; riots, wars; or strikes, lockouts, work stoppages or other labor difficulties (collectively, "Force Majeure Events").

14. ASSIGNMENT.

14.1 This Agreement shall be binding upon and inure to the benefit of the Parties hereto and their respective successors or assigns. User shall not assign, sublease, or license (hereinafter collectively referred to as a "Transfer") any rights or obligations hereunder without the prior written consent of the Owner.

15. WAIVER OF TERMS OR CONSENT TO BREACH.

15.1 No term or provision of this Agreement shall be waived and no breach excused, unless such waiver or consent shall be in writing and signed by a duly authorized officer of the Party claimed to have waived or consented to such breach. Any consent by either Party to, or waiver of, a breach by the other Party shall not constitute a waiver of or consent to any subsequent or different breach of this Agreement by the other Party, such failure to enforce shall not be considered a consent to or a waiver of said breach or any subsequent breach for any purpose whatsoever.

16. RELATIONSHIP NOT A PARTNERSHIP OR AN AGENCY.

16.1 The relationship between User and the Owner shall not be that of partners or agents for one another and nothing contained in this Agreement shall be deemed to constitute a partnership, joint venture or agency agreement between the Parties hereto.

17. NO THIRD-PARTY BENEFICIARIES.

17.1 This Agreement shall be for the sole benefit of the Parties hereto and their respective permitted successors and assigns, and except for the requirements of Section 10.2 herein, shall not be construed as granting rights to any person or entity other than the Parties or imposing on either Party obligations to any person or entity other than a Party.

18. EFFECT OF SECTION HEADINGS.

18.1 Section headings appearing in this Agreement are inserted for convenience only and shall not be construed as interpretations of text.

19. NOTICES.

19.1 Any written notice under this Agreement shall be deemed properly given if sent by registered or certified mail, postage prepaid, or by nationally recognized overnight delivery service or by facsimile to the address specified below, unless otherwise provided for in this Agreement:

If to User to:  
Director of Information Management  
Battelle Science and Technology  
International  
505 King Avenue  
Columbus, OH 43210

If to Owner to:  
City Manager  
City of Dublin, Ohio  
5200 Emerald Parkway  
Dublin, OH 43017-1006

With a Copy to:  
Associate General Counsel  
Battelle Memorial Institute  
505 King Avenue  
Columbus, OH 43210

With a Copy to:  
Mr. Gregory Dunn  
Ice Miller LLP  
250 West Street  
Columbus, Ohio 43215

Law Director  
Frost Brown Todd  
Stephen J. Smith, Sr.  
10 W. Broad Street  
Columbus, Ohio 43215

19.2 Either Party may, by written notice to the other Party, change the name or address of the person to receive notices pursuant to this Agreement.

20. SEVERABILITY.

20.1 In the event any term, covenant or condition of this Agreement, or the application of such term, covenant or condition, shall be held invalid as to any person or circumstance by any court having jurisdiction, all other terms, covenants and conditions of this Agreement and their application shall not be affected thereby, but shall remain in force and effect unless a court holds that the invalid term, covenant or condition is not separable from all other terms, covenants and conditions of this Agreement.

21. COMPLIANCE WITH LAW.

21.1 Each Party hereto agrees that it shall perform its respective rights and obligations hereunder in accordance with all applicable laws, rules and regulations.

22. GOVERNING LAW AND VENUE.

22.1 This Agreement shall be interpreted in accordance with the Charter and Codified Ordinances of the City of Dublin, as amended, the laws of the State of Ohio, and all applicable federal laws, rules and regulations as if this Agreement were executed and performed wholly within the State of Ohio. No conflict of law provisions shall be invoked so as to use the laws of any other jurisdiction. The exclusive venue for all cases

or disputes related to or arising out of this Agreement shall be the state and federal courts in Franklin County, Ohio

23. ENTIRE AGREEMENT.

23.1 This Agreement, including any Exhibit attached hereto, all constitute the entire agreement between the parties with respect to the subject matter. This Agreement cannot be modified except in writing signed by both parties.

IN WITNESS WHEREOF the Parties have executed and delivered this Agreement effective the day and year first above written:

USER:

Battelle Memorial Institute  
an Ohio non-profit corporation

\_\_\_\_\_  
By: \_\_\_\_\_  
Its: \_\_\_\_\_

OWNER:

City of Dublin, Ohio, an Ohio municipal corporation.

\_\_\_\_\_  
By: Marsha Grigsby  
Its: City Manager

**Approved As To Form:**

\_\_\_\_\_  
Law Director, City of Dublin

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**Exhibit A**  
**Battelle Fiber Route**

**Exhibit A-1**

**Exhibit B**

**FIBER SYSTEM SPECIFICATIONS**

I. General

The Owner shall install and maintain the User System within the Owner's Fiber System in accordance with the criteria and specifications that follows:

II. Design Criteria

The Owner shall endeavor to keep the number of splices in a span to a minimum.

III. Optical Fiber Specifications

The Owner shall meet the optical specifications as detailed below for the cable installed:

A. Single Mode Fiber

<u>Parameter</u>	<u>Specifications</u>	<u>Units</u>
Maximum attenuation, 1310/1550	.35/.25	dB/Km
Cladding diameter	125.0	um
Cutoff wavelength	1150-1330	nm
Zero dispersion wavelength	1300-1320	nm
Maximum dispersion (2.6 – 6.0)	.05	ps/ (nm-km)

**Exhibit C**

**MAINTENANCE AND REPAIR**

**Charges for Time and Material Service**

The Owner or Owner's agent may perform maintenance service at the rates established below, which rates are subject to change. Unless specifically authorized by the User, no Scheduled Maintenance shall be performed outside of normal working hours, detailed below:

**Normal Working Hours:**

8:00 a.m. to 5:00 p.m.,  
Monday through Friday  
(Except Owner observed holiday).

**Overtime Hours:**

5:01 p.m. to 7:59 a.m., Saturday, Sunday,  
and all Owner observed holidays.

**Expenses Incurred per call out:**

<b>Labor Rates</b>	<b>Hourly Rate</b>	<b>Overtime Rate</b>
Project Manager	75.00	112.50
Professional Engineer	65.00	97.50
Right of Way Agent	48.50	72.75
Supervisor	47.70	71.55
Foreman	36.90	55.35
Operator	31.50	47.25
Truck Driver	26.00	39.00
Laborer	21.70	32.55
Fiber Splicer	42.00	63.00
<b>Equipment Rates</b>	<b>Hourly Rate</b>	
Pickup	16.00	
1-ton/flat bed	17.60	
2-ton dump	24.00	
Trailer	16.50	
Rubber tired backhoe	36.20	
Rodding machine	21.75	
Winch truck	21.75	
Air compressor	16.00	
Light plant	17.45	
Arrow board	9.00	
2" water pump	10.00	
Generator	14.50	
Cable cart	7.00	
Manhole package	14.50	
Fusion splicing package	30.00	

# BATTELLE NEWS RELEASE

## **Battelle to Use Dublin's Fiber Optic Ring to Test Secure Data Transfer Hardware**

### ***Local city allocates in-ground fibers for QKD verification***

COLUMBUS, Ohio (Aug. xx, 2014)—[Battelle](#) has reached a five-year agreement with neighboring Dublin to use part of the city's fiber optic network for free so scientists can test Quantum Key Distribution (QKD) hardware to prove its real-world effectiveness in safe data transfer. The research will be aided by the developer of the QKD hardware, [ID Quantique](#).



The deal also allows for other researchers and businesses to join Battelle in using dubLINK, a 100-kilometer ring of in-ground fiber optic cable circling central Ohio. Additional fibers in a 25-kilometer ring belonging to Dublin also will be available, allowing researchers in quantum communication to perform real-world testing on advanced hardware on a cable test bed up to 400 kilometers in length.

"Dublin is a forward-thinking city, and the people there are generous to allow us to perform this testing," said Don Hayford, Senior Research Leader in charge of Battelle's QKD program. "This is an important step forward, not only for testing our hardware and strengthening our network, but for providing a place for QKD developers to prove out their hardware."

Currently, Battelle already is using its own 1 gigabit, 62-kilometer QKD network between its headquarters in Columbus and manufacturing offices in Dublin, one of the first commercial applications in the United States. Information such as financial reports, intellectual property, drawings, designs and more are transferred between those facilities. Plans call for other

Battelle offices in central Ohio and Washington D.C. to be connected in the future, but for now, the use of dubLINK allows for testing in a more robust, real-world setting.

Testing will begin early next year and scientists will be examining such specific data transfer subjects as key rates, quantum bit error rates and how QKD signals could merge and co-exist on the same fiber with existing telecommunications.

Battelle experts believe data encrypted by using existing key technologies will become vulnerable once quantum computers are mainstream in the near future. According to recent revelations, some aspects of current secure communications encryption technology already have been compromised by U.S. and British governments. While products based on QKD technology already are being used by banks and governments in Europe—especially Switzerland, home of ID Quantique’s headquarters—they have not been widely deployed commercially in the United States.

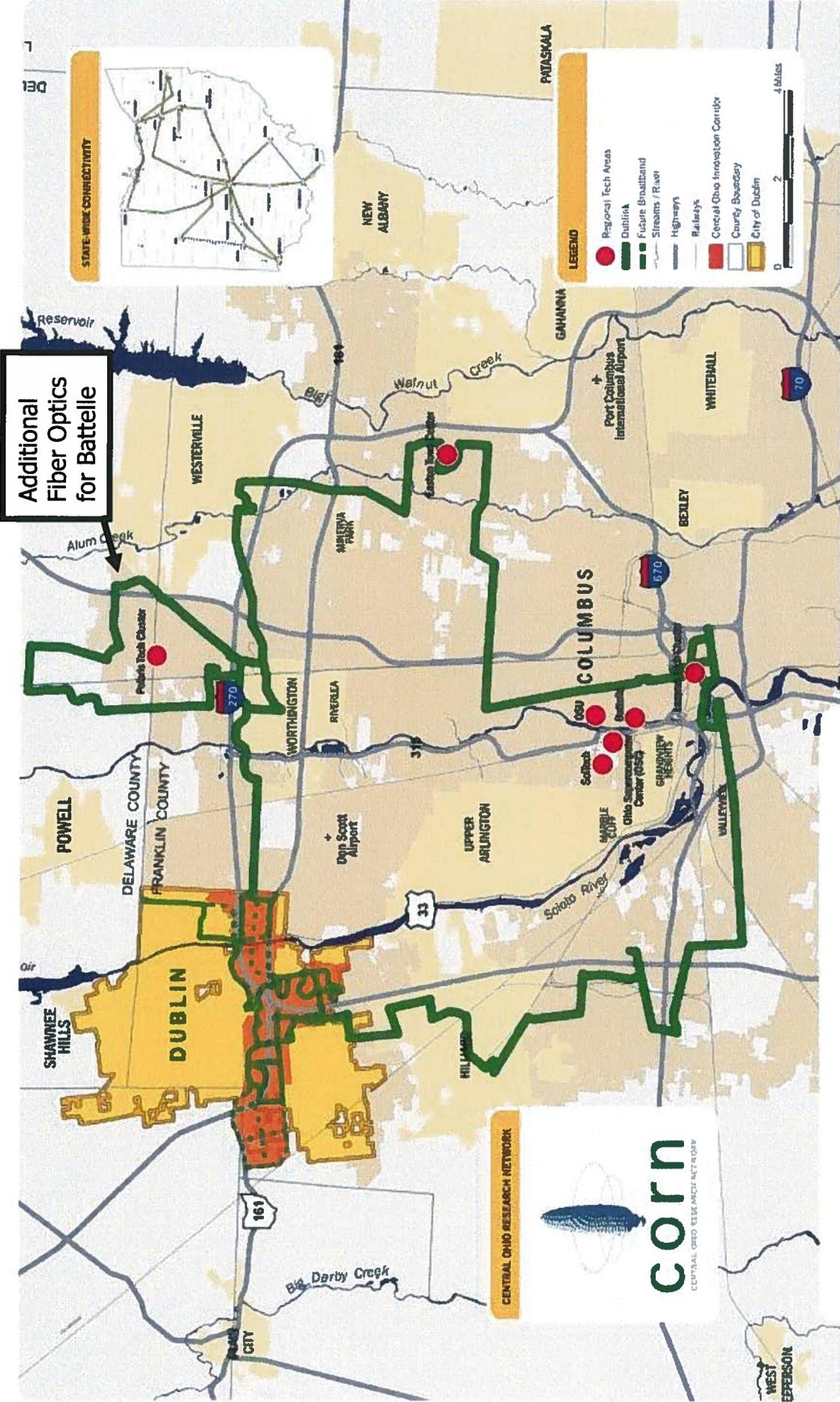
Fiber optic cables limit the delivery of photons to about 60 miles, so a place as large as the United States poses an installation problem. In order to extend the protected reach, repeaters, or “trusted nodes,” must be established. “This is one reason why testing on dubLINK is so important. Battelle is developing a scalable architecture with ID Quantique—including these trusted nodes—that will enable QKD to operate at any distance, making large scale implementation possible and practical, said Hayford.”

### **About Battelle**

Every day, the people of [Battelle](#) apply science and technology to solving what matters most. At major technology centers and national laboratories around the world, Battelle conducts research and development, designs and manufactures products, and delivers critical services for government and commercial customers. Headquartered in Columbus, Ohio since its founding in 1929, Battelle serves the national security, health and life sciences, and energy and environmental industries. For more information, visit [www.battelle.org](http://www.battelle.org).

### **Media Contacts**

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Additional Fiber Optics for Battelle



City-Owned Regional Fiber Network

