# IN THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF ILLINOIS EASTERN DIVISION

SMART SYSTEMS INNOVATIONS, LLC	
Plaintiff,	) No. 1:14-cv-8053 )
VS.	) District Judge Edmund E. Chang )
CHICAGO TRANSIT AUTHORITY, CUBIC CORPORATION, CUBIC TRANSPORTATION SYSTEMS, INC.,	<ul><li>) Magistrate Judge Sidney Schenkier</li><li>)</li></ul>
and CUBIC TRANSPORTATION SYSTEMS CHICAGO, INC.,	
Defendants.	

## FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Smart Systems Innovations, LLC. ("Smart Systems") for its First
Amended Complaint for Patent Infringement against Defendants Chicago
Transit Authority, Cubic Corporation, Cubic Transportation Systems, Inc., and
Cubic Transportation Systems Chicago, Inc. (collectively "the Cubic
Defendants"), states as follows:

#### INTRODUCTION

1. This case arises out of the Defendants' infringement of patents owned by plaintiff Smart Systems through the Defendants' implementation and operation of the open payments fare payment system – the "Ventra" system – provided under contract to CTA by the Cubic Defendants.

### PARTIES, JURISDICTION AND VENUE

- 2. Plaintiff Smart Systems is a Delaware limited liability company with its principal place of business in Hopewell, New Jersey.
- 3. Defendant Chicago Transit Authority ("CTA") is an independent agency created by the Chicago Metropolitan Transit Authority Act (70-ILCS-3605).
- 4. Defendant Cubic Corporation ("Cubic Corp.") is a Delaware Corporation with a principal place of business in San Diego, California.
- 5. Defendant Cubic Transportation Systems, Inc. ("CTS") is a California Corporation with a principal place of business in San Diego, California.
- 6. Defendant Cubic Transportation Systems Chicago, Inc. ("CTSC") is an Illinois Corporation with a principal place of business in Chicago, Illinois.
- 7. This action arises under the patent laws of the United States, Title 35 of the United States Code. Accordingly, this Court has subject-matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).
- 8. This Court has personal jurisdiction over Defendants pursuant to Illinois' long-arm statute, 735 ILCS 5/2-209 (2003).
- 9. Venue is proper in this District under 28 U.S.C. §§ 1391(b) and (c)(2), and 28 USC § 1400(b). The Defendants are deemed to be residents of this District pursuant to § 1391(c)(2). A substantial part of the events or omissions giving rise to the claims, including the Defendants' commission of acts of infringement, has taken place in this District.

#### FACTUAL BACKGROUND

### A. Smart Systems' Involvement with Open Payment Systems

- 10. Plaintiff Smart Systems was an early developer of open payments technologies for public transit which would enable transit riders to pay fares using bank cards and would eliminate the need for the transit agency to maintain an in-house infrastructure of house issued transit cards. At a time during which transit agencies and transit integrators (such as the Cubic Defendants) were highly skeptical about open payments technologies, Smart Systems began developing such technologies and promoting their use by transit agencies in the United States.
- 11. Smart Systems perceived that open payments for transit had been highly successful in Seoul, Korea, one of the world's largest markets for public transit, and sought to bring this success to the United States. At first, Smart Systems worked with a Korean partner, and as part of that relationship became the owner of the fundamental United States patent enabling open payments for transit. Smart Systems went on to develop its own open payments technologies for transit systems in the United States, work which resulted in the issuance of several United States Patents.
- 12. At least in part because of Smart Systems' work, open payments technology became better accepted among transit agencies in the United States and various transit agencies began to issue Requests for Proposals ("RFPs") for integrators to implement open payment technologies.

### B. CTA's Ventra System

- 13. One such RFP was issued by CTA. It called for the implementation of a state-of-the-art open standards fare payment system that would enable CTA's customers to pay for fares using bank cards such as credit, debit and prepaid cards.
- 14. CTA decided in November 2011 to accept a bid from the Cubic Defendants to implement this open payments system for CTA. The system, popularly known as Ventra, went into operation in the first half of 2014.

  Ventra is a bank-card-based open payments system enabling riders to access CTA or PACE transit using the Ventra Card, a bank card issued for Defendants by First Data Corporation, or any third party bank card containing a contactless chip.
- 15. In implementing the CTA open payments system, CTA and the Cubic Defendants have acted jointly and in concert. CTA has exercised, and continues to exercise, control and direction over the Cubic Defendants pursuant to a relationship that was and is governed by RFPs and agreements that are comprised of hundreds of pages.
- 16. CTA retained the Cubic Defendants to perform all of the obligations that the CTA/Cubic agreements impose on the Cubic Defendants for purposes of implementing the open payments system. These detailed agreements impose a host of performance, scheduling, technical, milestone, and business obligations on the Cubic Defendants, and, on information and belief, give rise to an obligation that the Cubic Defendants at all times act in the best interest

of CTA, consistent with the professional and fiduciary obligations assumed by the Cubic Defendants under the agreements.

- 17. On information and belief, both CTA and the Cubic Defendants were aware of Smart Systems and its patent rights during the bid process and after CTA awarded the contract to the Cubic Defendants.
- 18. The Cubic Defendants had actual knowledge of United States
  Patent No. 5,828,044, United States Patent No. 7,566,003, and United States
  Patent No. 7,568,617 gained, at least in part, as a result of the detailed
  discussions that Smart Systems and the Cubic Defendants had over the course
  of years in the form of in-person meetings, telephone calls, letters, and emails,
  in which Smart Systems directly informed the Cubic Defendants of these
  patents.
- 19. In addition, in these same communications, Smart Systems also informed the Cubic Defendants about its pending patent applications that would soon mature, including United States Patent No. 8,505,816 and United States Patent No. 8,662,390. Especially given the status of the Cubic Defendants as sophisticated providers of technology products, with sophisticated outside patent counsel, it is reasonable to infer that the Cubic Defendants tracked the progress of those pending patent applications before the PTO and were aware that the patents had issued.
- 20. Further, on information and belief, the CTA was informed by the Cubic Defendants of the patents that had issued to Smart Systems given the

close working relationship between the CTA and the Cubic Defendants in developing the Ventra System.

- 21. Despite their awareness of Smart Systems' patents and their infringement thereof, neither CTA nor the Cubic Defendants has agreed to take a license to Smart Systems' patents.
- 22. As detailed in the Counts that follow, Smart Systems asks this Court to find that Defendants' open standards fare payment system infringes the Smart Systems patents, described below.
- 23. In addition to their direct infringement of Smart Systems' patents, Defendants have also infringed, and continue to infringe, one or more of the asserted patents' claims by knowingly inducing commuters who are CTA's customers to directly infringe by, *inter alia*, utilizing the Ventra card to access the CTA transit system. With knowledge that their actions would induce direct infringement by commuters who are CTA's customers, or with willful blindness to this fact, Defendants have promoted and advertised the CTA open payments system, instructed commuters who are CTA's customers on how to use the CTA open payments system in an infringing manner through their use of the Ventra card or any third party bank card containing a contactless chip, and encouraged commuters who are CTA's customers to do such. At least these commuters who are CTA's customers have as a result directly infringed, and continue to directly infringe, one or more of the Smart Systems patents' claims.

#### C. The Patents at Issue

- 24. On October 27, 1998, the United States Patent and Trademark Office ("USPTO"), duly and legally issued United States Patent No. 5,828,044 ("the '044 patent"), which is entitled "Non-Contacting Type Radio Frequency Recognizing Credit Card System." A copy of the '044 patent is attached hereto as Exhibit A.
- 25. Subsequently, on October 9, 2007, an unidentified party submitted the '044 patent to reexamination by the USPTO. The '044 patent emerged from reexamination with no substantive changes to the original claims on September 16, 2008. A copy of the September 16, 2008 Reexamination Certificate with respect to the '044 patent is attached hereto as Exhibit B.
- 26. The '044 patent was originally assigned to Kookmin Credit Card Co., Ltd of Seoul, Korea. All right, title and interest in the '044 patent was later assigned to Smart Systems Co., LLC, an affiliate of Smart Systems on November 17, 2004. Smart Systems Co., LLC granted Smart Systems an exclusive License to the '044 patent on June 21, 2011.
- 27. On July 28, 2009 the USPTO duly and legally issued United States Patent No. 7,566,003 ("the '003 patent"), which is entitled "Learning Fare Collection System for Mass Transit." Smart Systems owns all right, title and interest in the '003 patent. A copy of the '003 patent is attached hereto as Exhibit C.
- 28. On August 4, 2009 the USPTO duly and legally issued United States Patent No. 7,568,617 ("the '617 patent"), which is entitled "Learning

Fare Collection System for Mass Transit." Smart Systems owns all right, title and interest in the '617 patent. A copy of the '617 patent is attached hereto as Exhibit D.

- 29. On August 13, 2013 the USPTO duly and legally issued United States Patent No. 8,505,816 ("the '816 patent"), which is entitled "Public Transit System Fare Balance Processor for Multi-Balance Funding." Smart Systems owns all right, title and interest in the '816 patent. A copy of the '816 patent is attached hereto as Exhibit E.
- 30. On March 4, 2014 the USPTO duly and legally issued United States Patent No. 8,662,390 ("the '390 patent"), which is entitled "Public Transit System Fare Balance Processor for Multi-Balance Funding." Smart Systems owns all right, title and interest in the '390 patent. A copy of the '390 patent is attached hereto as Exhibit F.

### COUNT I — INFRINGEMENT OF THE '044 PATENT

- 31. Smart Systems incorporates and realleges by reference paragraphs 1 through 30 as if fully set forth here.
- 32. Defendants have had actual knowledge of the '044 patent since at least April 2005. At that time, Smart Systems informed Mr. Walter Bonneau, the Chief Technology Officer of Cubic Transportation Systems, Inc., about the '044 patent. Smart Systems also informed C.C. Tam of the CTA about the '044 patent during 2005. Smart Systems and the Defendants proceeded to have numerous discussions about the '044 patent through in-person meetings, telephone calls, emails, and letters between 2005 and the filing of this action.

- 33. Despite such knowledge, Defendants have directly infringed, and continue to directly infringe, one or more of the '044 patent's claims by operating the CTA open payments system. In doing so, Defendants have acted and continue to act recklessly and in disregard of an objectively high likelihood that their actions constitute infringement.
- 34. To the extent that the CTA open payments system does not literally infringe the '044 patent, the CTA open payments system infringes the '044 patent under the doctrine of equivalents.
- 35. Defendants have also induced commuters who are their customers to infringe the '044 patent and continue to do so. In doing so, Defendants have acted and continue to act recklessly and in disregard of an objectively high likelihood that their actions would induce infringement.
- 36. Because of Defendants' infringement of the '044 patent, Smart Systems is entitled to a reasonable royalty in an amount to be established at trial.
  - 37. Defendants' infringement of the '044 patent has been willful.

### COUNT II — INFRINGEMENT OF THE '003 PATENT

- 38. Smart Systems incorporates and realleges by reference paragraphs 1 through 37 as if fully set forth here.
- 39. Defendants have had actual knowledge of the '003 patent since at least March 2012. For example, between March 2012 and January 2013, Smart Systems had discussions about the '003 patent with the Cubic Defendants' outside counsel at Kilpatrick Townsend & Stockton LLP and with

Cubic's General Counsel, Ab Jenkins, III. In addition, Defendants have known about the '003 patent, at the very latest, since October 15, 2014 when Smart Systems filed this lawsuit.

- 40. Despite such knowledge, Defendants have directly infringed, and continue to directly infringe, one or more of the '003 patent's claims by operating the CTA open payments system. In doing so, Defendants have acted and continue to act recklessly and in disregard of an objectively high likelihood that their actions constitute infringement.
- 41. To the extent that the CTA open payments system does not literally infringe the '003 patent, the CTA open payments system infringes the '003 patent under the doctrine of equivalents.
- 42. Defendants have also induced commuters who are their customers to infringe the '003 patent and continue to do so. In doing so, Defendants have acted and continue to act recklessly and in disregard of an objectively high likelihood that their actions would induce infringement.
- 43. Because of Defendants' infringement of the '003 patent, Smart Systems is entitled to a reasonable royalty in an amount to be established at trial.
- 44. Since March 2012, and since at the latest October 15, 2014, Defendants' infringement of the '044 patent has been willful.

### COUNT III — INFRINGEMENT OF THE '617 PATENT

45. Smart Systems incorporates and realleges by reference paragraphs 1 through 44 as if fully set forth here.

- 46. Defendants have had actual knowledge of the '617 patent since at least March 2012. For example, between March 2012 and January 2013, Smart Systems had discussions about the '617 patent with the Cubic Defendants' outside counsel at Kilpatrick Townsend & Stockton LLP and with Cubic's General Counsel, Ab Jenkins, III. In addition, the Defendants have known about the '617 patent, at the very latest, since October 15, 2014 when Smart Systems filed this lawsuit.
- 47. Despite such knowledge, Defendants have directly infringed, and continue to directly infringe, one or more of the '617 patent's claims by operating the CTA open payments system. In doing so, Defendants have acted and continue to act recklessly and in disregard of an objectively high likelihood that their actions constitute infringement.
- 48. To the extent that the CTA open payments system does not literally infringe the '617 patent, the CTA open payments system infringes the '617 patent under the doctrine of equivalents.
- 49. Defendants have also induced commuters who are their customers to infringe the '617 patent and continue to do so. In doing so, Defendants have acted and continue to act recklessly and in disregard of an objectively high likelihood that their actions would induce infringement.
- 50. Because of Defendants' infringement of the '617 patent, Smart Systems is entitled to a reasonable royalty in an amount to be established at trial.

51. Since March 2012, and since at the latest October 15, 2014, Defendants' infringement of the '617 patent has been willful.

### COUNT IV — INFRINGEMENT OF THE '816 PATENT

- 52. Smart Systems incorporates and realleges by reference paragraphs 1 through 51 as if fully set forth here.
- 53. Defendants have had actual knowledge of Smart Systems' portfolio of patents which includes the '816 patent since at least March 2012. For example, between March 2012 and January 2013, Smart Systems had discussions with the Cubic Defendants' outside counsel at Kilpatrick Townsend & Stockton LLP and with Cubic's General Counsel, Ab Jenkins, III about the portfolio of patents and pending applications that included the application that issued as the '816 patent on August 13, 2013. Especially given the status of the Cubic Defendants as sophisticated providers of technology products, with outside patent counsel, it is reasonable to infer that the Cubic Defendants and their attorneys tracked the progress of those pending patent applications before the PTO and were aware that the patents had issued. At a minimum, the Defendants necessarily have known about the '816 patent, at the very latest, since October 15, 2014 when Smart Systems filed this lawsuit.
- 54. Despite such knowledge, Defendants have directly infringed, and continue to directly infringe, one or more of the '816 patent's claims by operating the CTA open payments system. In doing so, Defendants have acted and continue to act recklessly and in disregard of an objectively high likelihood that their actions constitute infringement.

- 55. To the extent that the CTA open payments system does not literally infringe the '816 patent, the CTA open payments system infringes the '816 patent under the doctrine of equivalents.
- 56. Defendants have also induced commuters who are their customers to infringe the '816 patent and continue to do so. In doing so, Defendants have acted and continue to act recklessly and in disregard of an objectively high likelihood that their actions would induce infringement.
- 57. Because of Defendants' infringement of the '816 patent, Smart Systems is entitled to a reasonable royalty in an amount to be established at trial.
- 58. Since August 13, 2013, and since no later than October 15, 2014, Defendants' infringement of the '816 patent has been willful.

### COUNT V — INFRINGEMENT OF THE '390 PATENT

- 59. Smart Systems incorporates and realleges by reference paragraphs 1 through 58 as if fully set forth here.
- 60. Defendants have had actual knowledge of Smart Systems' portfolio of patents, which includes the '390 patent, since at least March 2012. For example, between March 2012 and January 2013, Smart Systems had discussions with the Cubic Defendants' outside counsel at Kilpatrick Townsend & Stockton LLP and with Cubic's General Counsel, Ab Jenkins, III about the portfolio of patents and pending applications that included the application that issued as the '390 patent on March 4, 2014. Especially given the status of the Cubic Defendants as sophisticated providers of technology products, with

outside patent counsel, it is reasonable to infer that the Cubic Defendants and their attorneys tracked the progress of those pending patent applications before the PTO and were aware that the patents had issued. At a minimum, the Defendants necessarily have known about the '390 patent, at the very latest, since October 15, 2014 when Smart Systems filed this lawsuit.

- 61. Despite such knowledge, Defendants have directly infringed, and continue to directly infringe, one or more of the '390 patent's claims by operating the CTA open payments system. In doing so, Defendants have acted and continue to act recklessly and in disregard of an objectively high likelihood that their actions constitute infringement.
- 62. To the extent that the CTA open payments system does not literally infringe the '390 patent, the CTA open payments system infringes the '390 patent under the doctrine of equivalents.
- 63. Defendants have also induced commuters who are their customers to infringe the '390 patent and continue to do so. In doing so, Defendants have acted and continue to act recklessly and in disregard of an objectively high likelihood that their actions would induce infringement.
- 64. Because of Defendants' infringement of the '390 patent, Smart Systems is entitled to a reasonable royalty in an amount to be established at trial.
- 65. Since March 4, 2014, and since no later than October 15, 2014, Defendants' infringement of the '390 patent has been willful.

#### PRAYER FOR RELIEF

WHEREFORE, Smart Systems prays for the following judgment and relief:

- a. A judgment for Smart Systems and against Defendants;
- b. A judgment that Defendants have infringed the '044, '003, '617, '816, and '390;
- c. An order that Defendants account for and pay to Smart Systems all damages that are available under 35 U.S.C. § 284 and/or 35 U.S.C.§154(d), including treble damages for willful infringement;
- d. An order compelling Defendants to make an accounting of their sales, profits, royalties, and damages owed to Smart Systems, including a post-judgment equitable accounting of damages for the period of infringement of the '044, '003, '617, '816, and '390 patents following the period of damages established by Smart Systems at trial;
- e. An order compelling Defendants to pay to Smart Systems prejudgment and post-judgment interest;
- f. An award to Smart Systems of its costs, fees, and expenses in this action;
- g. A permanent injunction prohibiting Defendants from continuing to infringe the '044, '003, '617, '816, and '390 patents; and
  - h. Any other relief that the Court deems just and equitable.

#### JURY DEMAND

Smart Systems demands a jury trial on all issues so triable.

Respectfully Submitted

SMART SYSTEMS INNOVATIONS, LLC

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