Scheidt & Bachmann, USA Confidentiality Disclosure for UTA RFP 22-03566RW

THIS DOCUMENT CONTAINS TRADE SECRET INFORMATION. THE SECTIONS AND PAGES BELOW ARE TO BE CONSIDERED CONFIDENTIAL.

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Trade Secret

July 11, 2022

Rick Wilson, Contract Officer
Utah Transit Authority (UTA)
669 West 200 South
Salt Lake City, UT 84101

Dear Mr. Wilson,

Thank you for the opportunity for Scheidt & Bachmann USA, Inc. (S&B) to submit our proposal to Utah Transit Authority (UTA) in response to RFP 22-03566RW Electronic Fare Collection System. S&B is an experienced leader in the fare collection industry, providing Account Based Ticketing solutions enabling transit agencies to modernize their current systems and provide accessibility, convenience, and an enhanced level of service to riders. S&B has a 40-year history of delivering **fare collection solutions to worldwide clients**. We expanded to the North American market nearly 25 years ago and developed products dedicated to the new marketplace. We continue to implement flexible solutions tailored to the individual needs of local and regional transit agencies.

We base our offer on the assumption that the terms and conditions will be mutually agreed upon in the negotiation phase and will be based on the S&B license agreements.

Authorized Offeror Information:

Daniel Terryn
Chief Executive Officer
Scheidt & Bachmann USA, Inc.
1001 Pawtucket Blvd STE 992
Lowell, MA 01854
(781) 272-1664
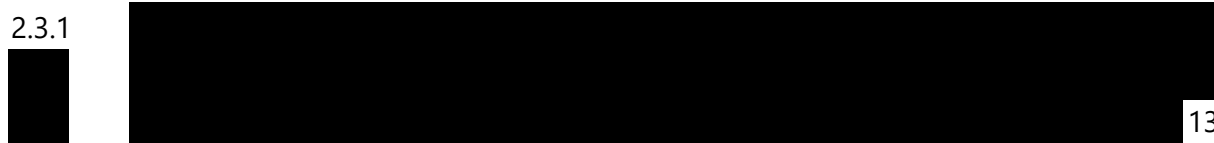Email: Terryn.Daniel@scheidt-bachmann-usa.com

Sincerely,

Proposer information: Scheidt & Bachmann issues this proposal as the prime offeror.

Electronically submitted by:
Amy Jenks
Regional Vice President
Scheidt & Bachmann USA

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1 Executive Summary

In 2021, the UTA's Board of Trustees, executive leadership, and staff focused on positioning UTA to be in a state of readiness to build and implement transit projects and additional transit services. The Board of Trustees' strategic positioning will address Utah's projected growth and the extra demands the population growth will place on UTA's personnel, equipment, facilities, and technology. The Board's focus is also aligned with UTA's 2040 Strategic Plan, published in 2018, which anticipates growth. The Strategic Plan highlights some critical challenges; portions of two challenges directly related to the RFP are quoted below.

- *"Historically, ridership has been a metric for transit systems. While increased ridership is important, new information and analytical tools will enable UTA to focus on access to opportunity."*
- *"As new, disruptive trends including demographic changes, advancing technologies and evolving economic factors continue to develop, UTA will need to adapt to these trends and anticipate their impacts on the transportation system. There are a multitude of developments surfacing today that include everything from intelligent vehicle technology to alternative fuels to roadways with built-in traffic management systems. Also requiring consideration is the revolutionary world of mobile technology, which is used by so many people today."*

Supporting the Board of Trustees' positioning and the 2040 Strategic Plan is a 2021 UTA study of UTA's current capabilities and needs. The study produced three recommendations that focus on UTA's stated purpose in the RFP: *"...for a new integrated, vendor-hosted, account-based, electronic fare collection system."* The study's recommendations are listed below.

- Procure a new electronic fare collection (EFC) system from a third-party supplier
- Procure new EFC-integrated TVMs that conform to current PCI standards and vend FAREPAY cards.
- Procure a new mobile app that provides electronic validation via virtual barcodes that riders scan at UTA validators and one that integrates with the EFC system and acts as a virtual FAREPAY card allowing customers to pay fares using stored value.

Additionally, the University of Utah's Kem C. Gardner Policy Institute collaborated with planning experts throughout Utah to form a long-term planning forecast for Utah for transportation, water, education, and other needs. The result was The Kem C. Gardner Policy Institute's January 19, 2022, population growth projection report. The report shows several key factors that will potentially increase UTA's ridership:

- Net migration is becoming a steadily increasing force as the state's population increases to 5.5 million by 2060
- The center of UTA's ridership, the Wasatch Front, remains the heart of Utah's economy
- Job growth in Salt Lake and Utah counties drives two-thirds of statewide job growth in the projection horizon
- Employment growth is more concentrated than population growth; for example, Salt Lake County, the second-largest population growth center, will add more jobs than residents over the next 40 years
- In a separate analysis of the report's forecast, the Salt Lake Tribune projects that twenty-eight of Utah's 29 counties will gain in population over the next four decades

> **Examples of S&B's Experience Delivering Complex Fare Collection Systems**
>
> - **Ottawa, ON**: Account-Based Open Payment System, Faregates, Ticket Vending Machines, Bus Validators, Website
> - **Connecticut**: Account-Based Back Office, Best-price Calculation, Fare Capping, Fareboxes, Validators, Websites, Mobile App, Ticket Vending Machines, Institutional Programs, Point-of-Sales Devices
> - **Boston, MA**: Smartcard Ticketing System, Ticket Vending Machines, Faregates, Fareboxes, Validators, Point-of-Sale Devices, Website, Institutional Programs

These factors validate UTA's forward-leaning posture expressed in the Board of Trustees' positioning, the challenges outlined in the Strategic Plan, the 2021 study, and the population growth projection report. Scheidt & Bachmann's (S&B) design, IT, software, and hardware engineers collaborated to design a future-proof EFC solution to meet these challenges.

1.1 Proven Architecture and Innovated Approaches.

S&B's solution helps UTA achieve the RFP requirement for "…*a new integrated, vendor-hosted, account-based, electronic fare collection (EFC) system.*" The S&B account-based ticketing solution, FareGo Suite, offers a modern and versatile solution that can support a wide array of transit agency needs and provides UTA with the foundation to future-proof its transit technology. FareGo Suite is a flexible, open, and rapidly deployable fare collection solution suitable for transit agencies of all sizes. The FareGo Suite is agnostic to the fare media used: it supports the full range of NFC media (including ISO 14443 smartcards and ISO 15693 proximity cards), EMV Open Payments, two-dimensional barcodes, and deviceless fare payment, such as Bluetooth Low Energy beacons (in combination with a mobile application).

S&B's FareGo Suite allows UTA to implement and adjust fare policies without vendor locking. The system enables UTA to manage topology, transit operations, and fare policies in-house. The Journey Construction subsystem uses fare policies and rules to determine the correct fare. The tariff subsystem supports fare policies that include:
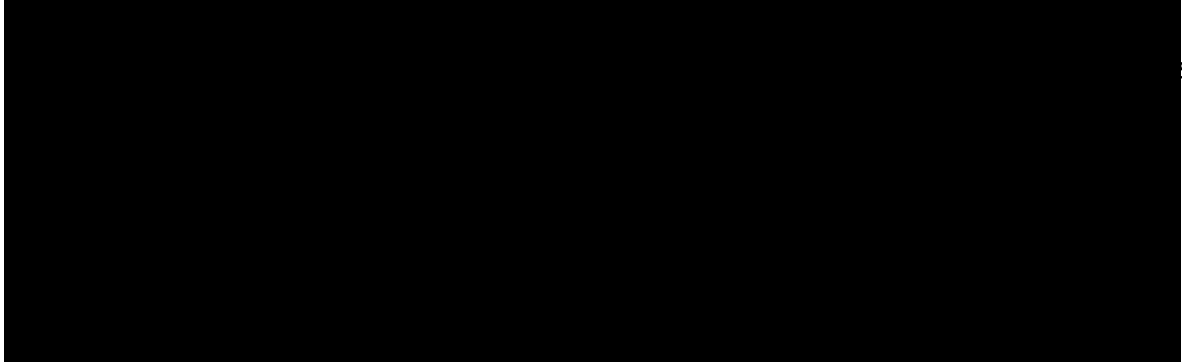
Our flexibility benefits UTA by allowing fare policies and rules to determine the correct fare, which helps capitalize on future and innovative fare schemes and support new and expanded services (such as UTA On Demand). Many out-of-box solutions do not have the capabilities to support this range of fares and policies. We discuss other fares and policies with UTA during the design phase.

Once integrated with FareGo Suite's data collection, UTA gains visibility into ridership patterns. For example, the repository of all tap-and-trip records shows how many patrons are riding services and where they are getting on and off. Additional data mining enables UTA to perform ridership analysis accurately and precisely, and answer common questions: Where are riders boarding and alighting services? How far do riders travel? How often do patrons transfer from service to service?

1.2 Open Architecture, Open APIs, and Open Payments

S&B's approach to API deployment is a true open architecture to meet the RFP requirement for "…fare validation hardware for all buses and rail platforms. These devices must be able to scan QR codes as well as contactless smartcards. These devices must constantly communicate with the EFC back-end system(s) to send usage data and receive account data."

The APIs are published and available for any integrator. This availability lasts throughout the contract term, including all maintenance years. Additionally, these APIs are productized and available for any vendor to integrate with as S&B deploys our UTA solution, allowing other EFC projects to continue with minimal impact on their schedules, budgets, or technical features.

All devices in the ecosystem, including our own, connect to the account-based back-office subsystems using a set of open interfaces that allow for secure, fast, yet interoperable data

exchange. All of our open interfaces are HTTP-based, implementing REST for upstream device-to-back-office communications. The interfaces are predominantly encoded using JSON and Google Protocol Buffers (GPB), which are current industry standards for REST interface encoding and allow for easy schema generation in nearly any programming language.
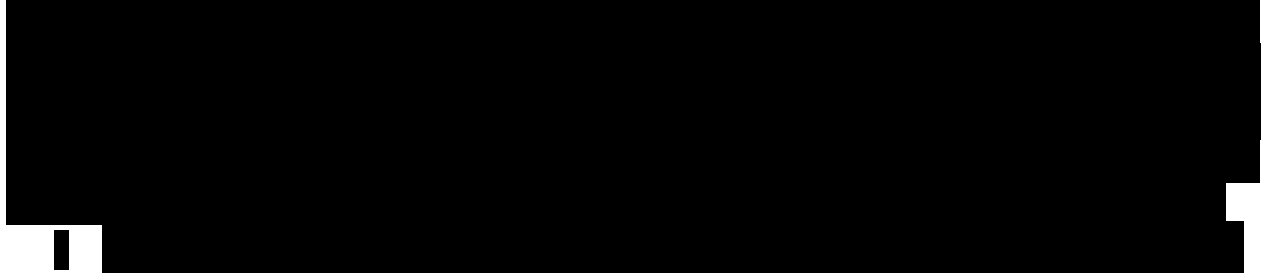
knowledge, which makes it ideal for occasional travelers and visitors and eliminates service staff support costs for UTA
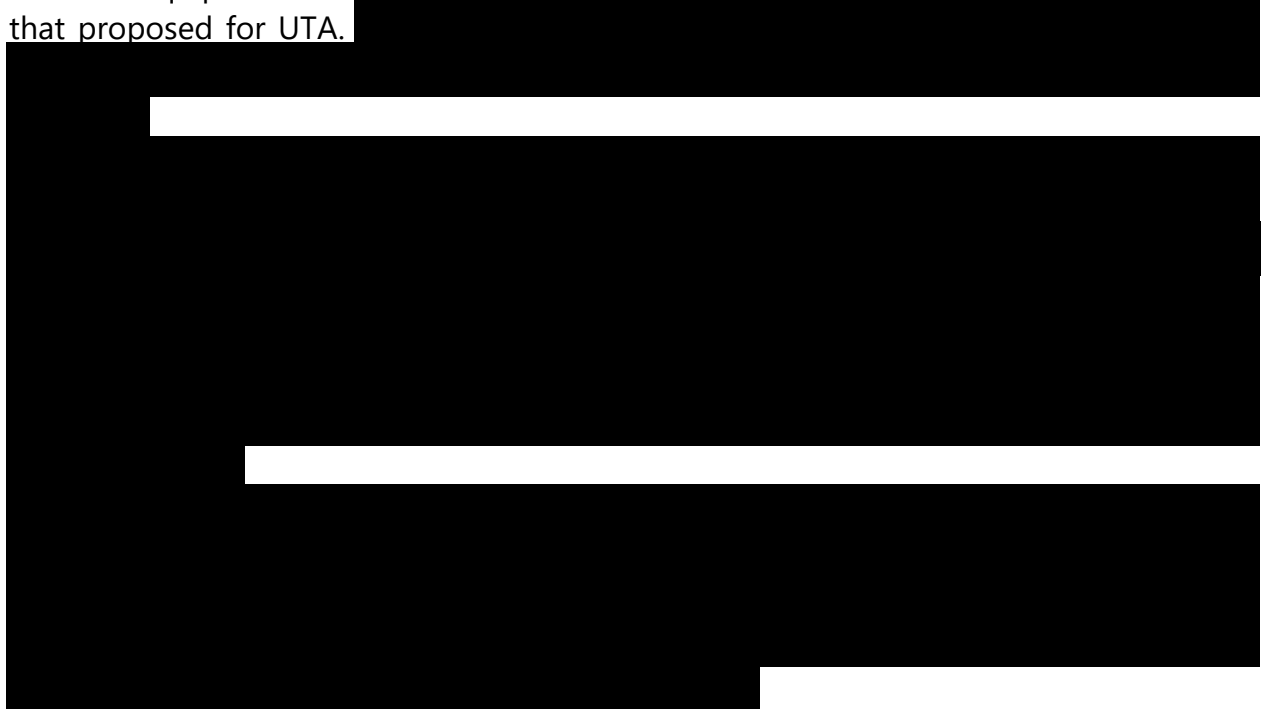
- Fully scalable solution - we can start with a single bus, line, station, or transit mode and roll out to the whole system and beyond
- FareGo Open Payment – non-invasive; can be implemented without changes to the current infrastructure, reducing risk and operational impact; also suitable for non-S&B installations
- Scalable Tariff Service – systems can start with a simple tariff in "Pay as You Go" mode and be expanded to all existing ticketing products
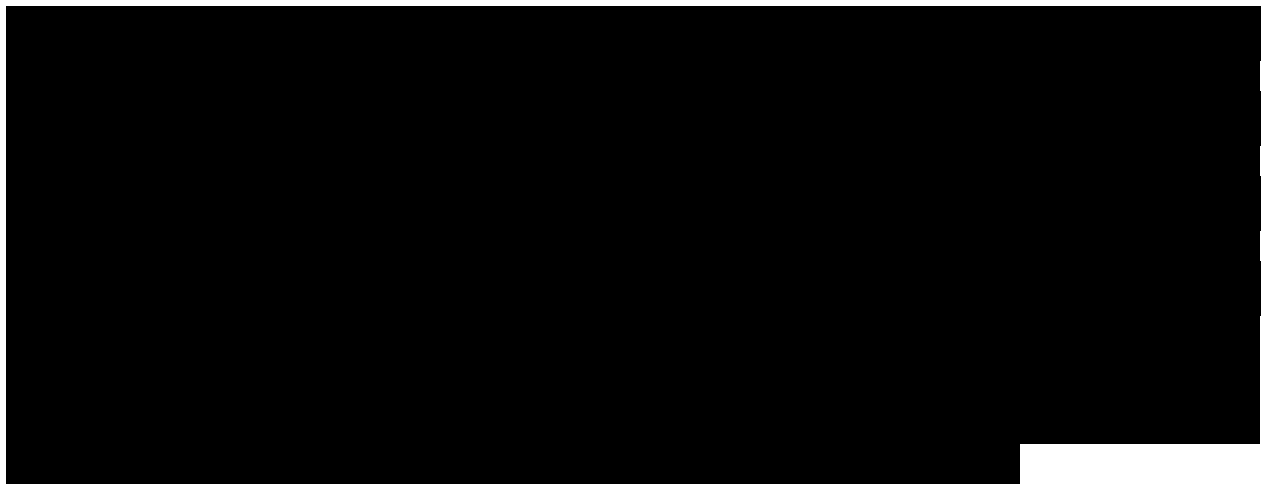
1.3   Reliable, Secure, and User-Friendly Customer Interfaces

To meet the RFP requirement for "...new ticket vending machines (TVMs) that will vend tokens for the closed-loop accounts. Further, patrons must be able to use these TVMs to reload value to their closed-loop accounts" we offer our ST|71 TVM. Our proposed fare and associated onboard equipment come with options to account for the needs and requirements of each passenger. We have deployed Fare Payment Validators, associated

onboard equipment, TVMs, and inspection devices similar in design and construction to that proposed for UTA.

Customers can purchase FAREPAY smartcards and/or add value at the TVM and through the InComm retail network. A customer web portal also provides riders with another channel to manage their account details and add value to their account.

A web portal for institutions allows bulk management of accounts associated with institution-provided media. We recognize the importance of TPICCS as part of the entire system, and our validators also support ISO 15693 media.

The account-based ticketing solution provides multiple channels for riders to purchase cards, add value, manage their accounts, and ultimately tap with the media they find most convenient. With TVMs offering change in bills and coins and the retail network integration, options for un/underbanked riders are expanded and more convenient than before.

All of S&B's equipment comes with detailed maintenance programs and instructions. Our extensive maintenance programs, such as preventative and life-cycle maintenance programs, provide a reliable, repeatable, and maintainable device fleet, which reduces customer service and remedial maintenance calls. Similar programs have allowed our customers to operate and maintain industry-compliant field devices for more than 20 years.

1.4   Secure and Reliable System Integrator

S&B has been a reliable partner for transit agencies for the last four decades. We are an established company with a profitable business operation that does not rely on outside investors or venture capital firms to fund non-sustainable business operations. The company's strategy for in-house software development, hardware development, and manufacturing of the S&B product portfolio has been invaluable during the long-term operations and support of transit agencies' fare collection systems. This has been especially true in the last two years, when we have faced severely disrupted global economies and material supply chains due to COVID19 and geopolitical events in Europe and other parts of the world. We recognized the need to secure our supply chain, improve our business continuity strategy, and increase our fare equipment product delivery's flexibility and scalability. S&B addressed these needs by strategically selecting and outfitting three facilities to build our corporate manufacturing capabilities:

S&B Manufacturing Advantage

- During the Covid-19 pandemic, S&B was able to continue manufacturing our fare equipment thanks to our inhouse production capabilities while others suffered production slowdown due to reliance on third party manufacturers.
- We recently completed the production of more than 500 Ticket Vending Machines for Massachusetts Bay Transportation Authority (MBTA) in less than one year.
- We provide UTA's current TVMs and we know the environment.

-

and benefits are shown in

Table 1.

Table 1. Key Features and Benefits of S&B's Solution for UTA's New EFC

2 System Integrator Qualifications

2.1 Company Profile

Founded in 1872, Scheidt & Bachmann (S&B) operates worldwide as a solutions and service provider in the public transit industry, wit more than 3,000 employees in approximately 50 countries. Scheidt & Bachmann USA, Inc. (S&B USA), a wholly owned Scheidt & Bachmann GmbH subsidiary, is headquartered in Lowell, MA. The Fare Collection division, the largest division of S&B, employs approximately 1,200 people. Figure 1 shows the percentage breakdown within the division.
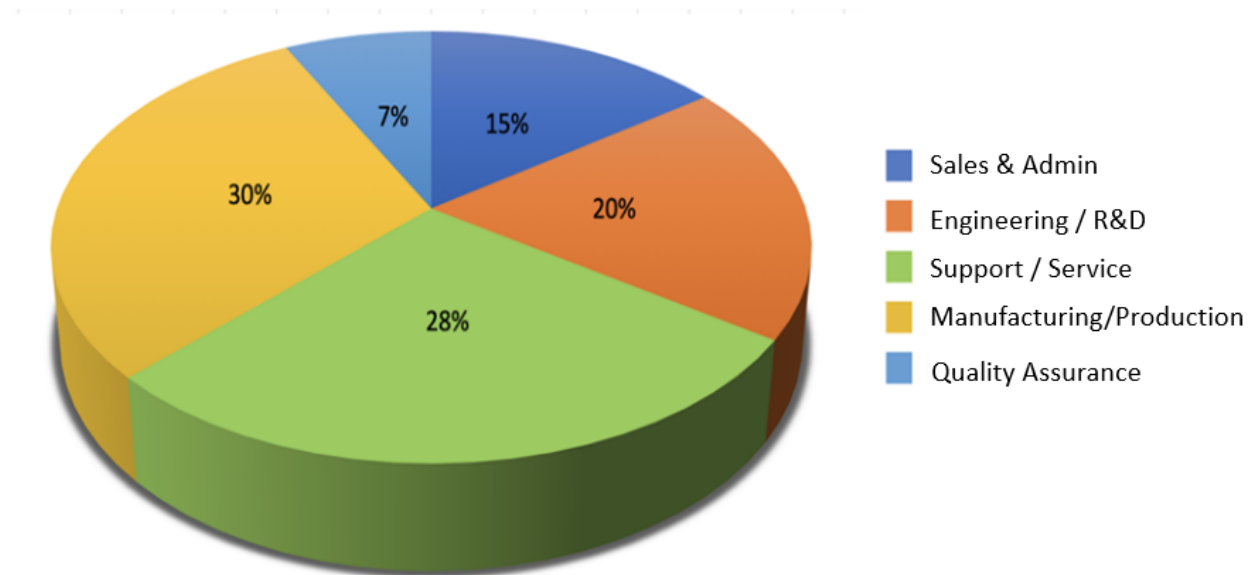
Figure 1. Percentage Breakdown of Staff Within the Fare Collection Division

Having operated and expanded throughout North America for nearly 25 years, S&B has opened multiple locations all over the continent, including facilities in Toronto, Phoenix, Chicago, and New York, and employs more than 200 full-time staff. ████████████

in **Appendix 1**.

2.2   Financial Stability and Responsible Business Practices

a. **Business Name**: Scheidt & Bachmann USA

   Address: 1001 Pawtucket Blvd, Lowell, MA 01854

   Telephone Number: (781) 272-1664

   State of Incorporation: Delaware (1995)

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2.3.3 █████████████

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2.4   Subcontractors

As System Integrator, S&B is proposing two subcontractors that are instrumental to the overall program: InComm Payments and ESP Enterprises. We have a long-standing relationship with both companies, and we operate as one team. S&B manages subcontractors as part of the project management plan, shown in the organizational chart in this proposal and discussed in section 3.2.

2.4.1   Subcontractor 1: InComm Payments

InComm Payments, established in 1992, provides cutting-edge prepaid products, services and transaction technologies to retailers, brands and consumers. InComm has 10+ years of specialized experience and technical competence related to managing prepaid cards in retail networks for public transit agencies. Currently, InComm is working with over 20 different transit agencies for these services, including UTA who has renewed their contract with InComm for the third time. For the UTA effort, InComm will provide the retail network and maintain partnerships with retail merchants to sell, activate, load, and reload prepaid cards used as tokens to closed-loop accounts in the back-office fare system.

In Section 2.1 of "Approach", the Program Manager at S&B will manage InComm's contribution to the project as a subcontractor.

References:

Name	Organization	Address	Contact

2.4.2   Subcontractor 2: ESP Enterprises

ESP Enterprises, a DBE established in 2002, is the leading services company providing installation and maintenance to all Fare Collection Equipment Manufacturers and Transit

Focused Electronics in North America. ESP has 20 years of specialized experience and technical competence related to installation support and services. On their current project, with Sound Transit, ESP is removing 100+ old TVMs and installing new TVMs. For the UTA effort, ESP will provide installation support for TVMs, bus validators, and stationary validators.

References:

2.5   Program/Project Management Team

S&B USA provides an experienced program manager, project managers, system installers, system integrators, and testers that meet UTA's requirements. Our identified project team personnel have extensive experience implementing systems identical to that required by UTA. The table below summarizes our team and identifies those positions considered as key personnel. Bios and resumes are included in **Appendix 3**.

[black redacted box with table]

2.6 Subcontractor Authorization

We are proposing two subcontractors on this project – InComm Payments and ESP Enterprises – and have included letters of intent in **Appendix 4** to demonstrate that we are authorized to furnish these services.

2.7 Team Experience

The proposed project team for the electronic fare collection (EFC) implementation has extensive industry experience across multiple projects with similar requirements. The individuals on the UTA team have experience across our eight global account-based ticketing implementations, which include integrations such as front-end validation devices, TVMs, reloadable back-office accounts, integrated mobile apps, websites, and/or inspection devices. Please refer to **Appendix 3** for bios and resumes for the individual members of the project team we propose. Each individual has extensive experience with integrated fare collection system deployments, migrations, and ongoing support.

2.8 Hosting Experience

S&B USA began hosting integrated fare collection systems in 2010 in advance of

[black redacted box]

2.9   Fare Collection Capabilities

2.10 PCI-Compliance on Front-end Devices
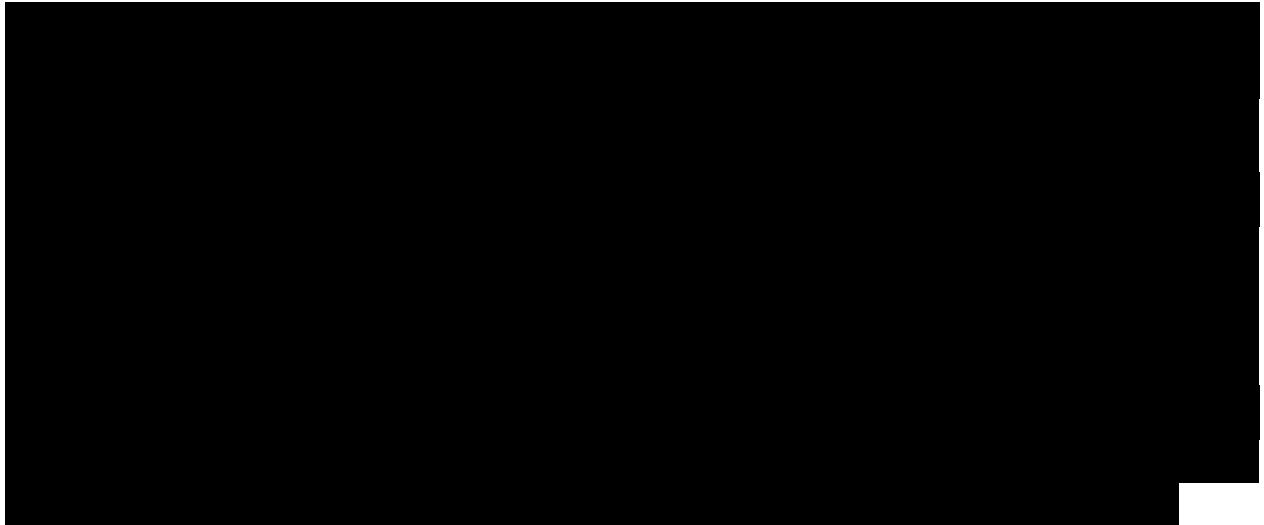
2.11 PCI-Compliance on Ticket Vending Machines

2.12 PCI-Compliance Mobile App

2.15 Web-based Portals

2.16 ABT Payments for Multi-Modal Trips

2.17 Open System

2.18 Cashless Strategies

2.19 Retail Network

S&B promotes integration with retail merchants as a natural way for transit agencies to effectively sell smart cards and reload accounts and the mobile app in a way that is convenient for riders. Using our open-APIs and experience, we support customer retail networks today and envision a natural integration with InComm for UTA. In the UTA served area, InComm currently supports over 230 retail locations.

We will use an approach similar to our CT-DOT products and services, where we work with InComm to provide pre-paid fare media through closed-loop reloadable cards via a wide retail distribution network. This includes:

a) card and packaging production
b) warehousing and distribution
c) sale, activation, load/reload of fare media
d) reporting, settlement and reconciliation
e) customer service support
f) marketing support
g) consumer/third party web site support

3 Approach [SOW W]
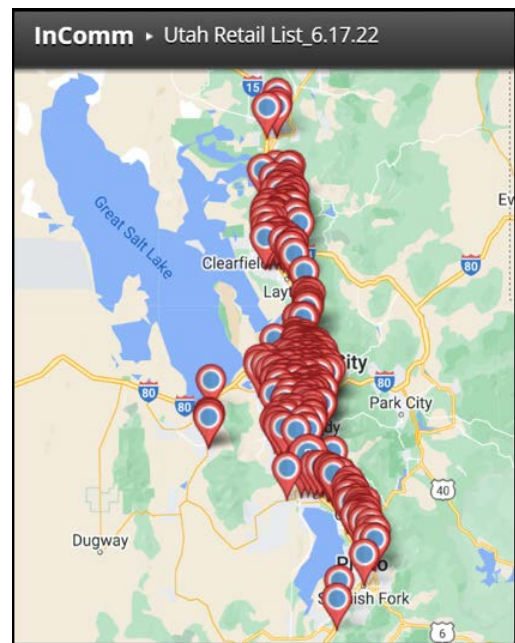
their benefits to UTA.

3.1 Program/Project ████████████

UTA Authority   S&B Personnel   S&B Subcontractor

ith

PLAN	DO	CHECK	ACT

channels are open and available for all passengers to purchase and load value to their

removed equipment (if required) according to local and Environmental Protection Agency

> **Proven Hardware Solutions**
>
> Our Stationary and Onboard validators are already in the market, in other strenuous environments, including: Ontario, Connecticut, Buffalo, Netherlands, Boston, and Phoenix – representing a wide range of environments.

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Incumbent for UTA TVMs

- Our system and UTA knowledge reduces risk and helps meet UTA's budget and operational challenges such as secure solutions, rider convenience, and reduced maintance costs
- During the Covid-19 pandemic, S&B continued manufacturing our fare equipment thanks to our inhouse production capabilities while others suffered production slowdown due to reliance on third party manufacturers
- We recently completed production of more than 500 Ticket Vending Machines in less than one year

3.12 System Performance Monitoring, KPIs, Alerts, Reporting [SOW W.13]

accepts financial incentives to ensure meeting KPIs, including the application of service