

Leveraging Design Thinking for Field Worker Enablement

APIDX Success Story



3/10/2020



Introduction

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Digital Field Ticketing and PIDX

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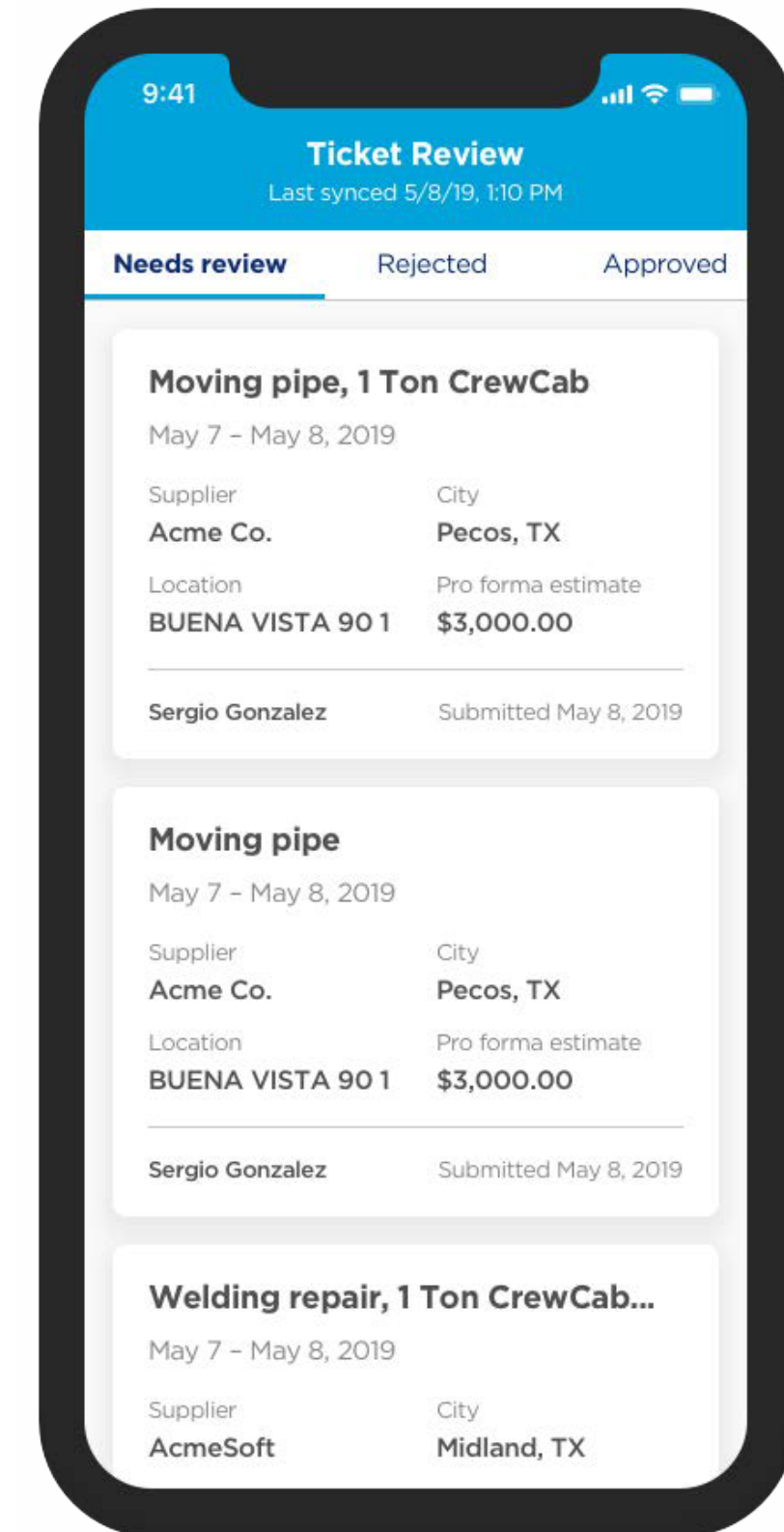
Q&A

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Introduction to 'Digital Field Service Management'

Digital Field Service Management, or 'DFSM' is a mobile application that enables timely confirmation of 3rd party work completed in the field, and produces an accurate estimate of the value of work done.

- Leverages an external facing API utilizing the PIDX industry data standard
- Connects Chevron to electronic information from external partners while meeting a high bar for security
- Informed by the "voice of the supplier" and the "voice of the Chevron field worker", gathered via user-centered field research and design thinking
- Launched with the first supplier in **August 2019**, and Site Managers have been digitally approving field tickets daily in the field over the last month





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DESIGN THINKING BENEFITS



IDENTIFY PROBLEMS WORTH SOLVING



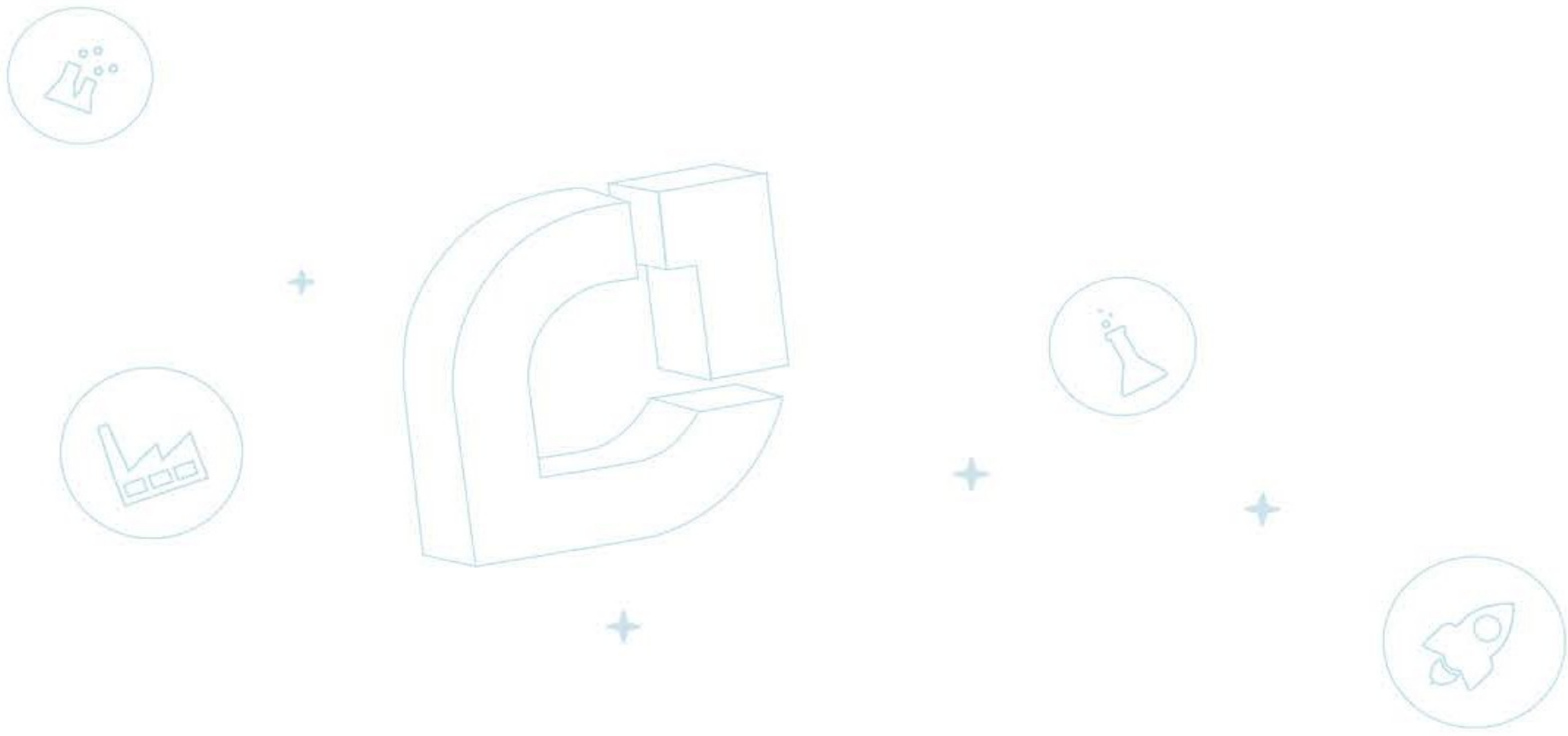
UNDERSTAND ROOT CAUSES
BEFORE EMBARKING ON A SOLUTION



LAUNCH PROJECTS WITHIN BUDGET & TIMELINE



SECURE ROI BY HITTING KPIS &
ENSURING USER ADOPTION



Project Stats

100+

HUMAN INTERACTIONS



3

PhDs



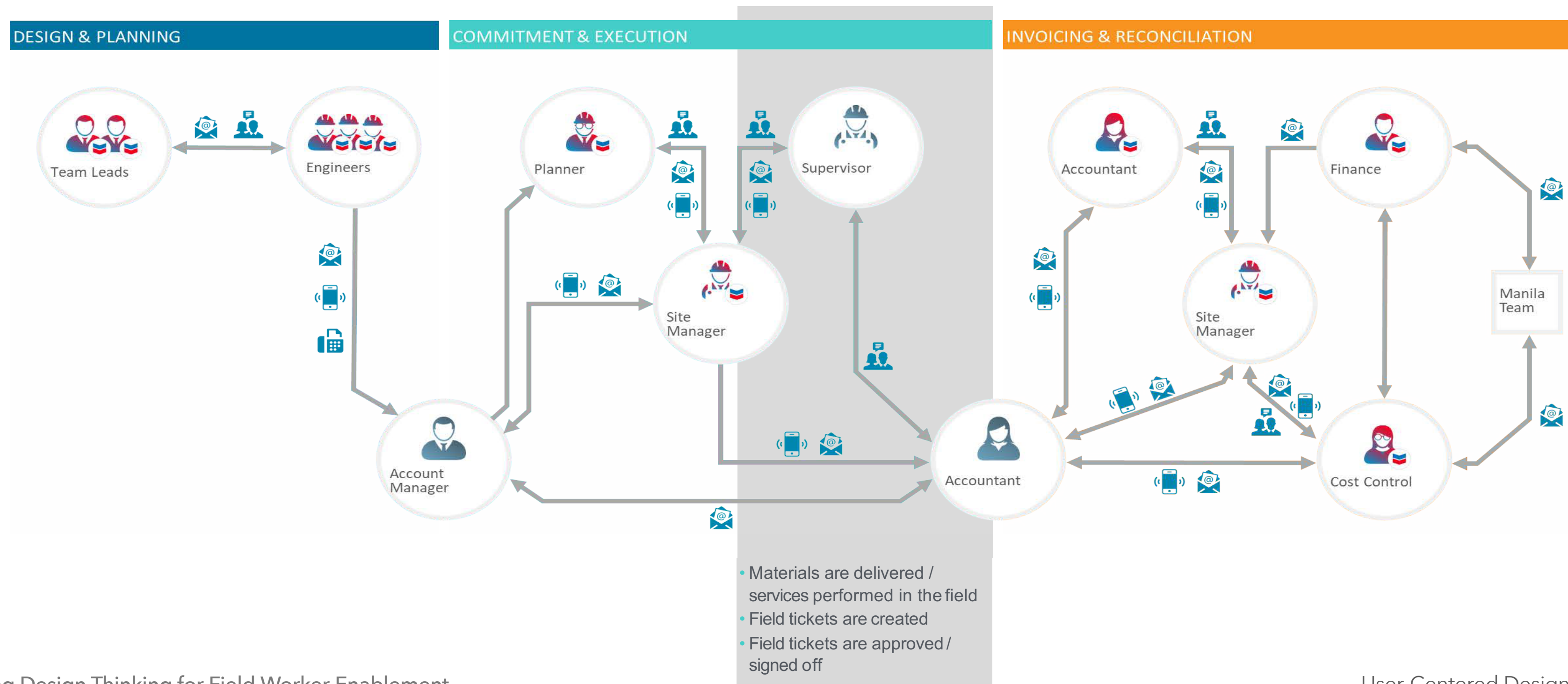
CHEVRON DSMs AND WSMs
CONSTRUCTION REPS
SUPPLIER FIELD WORKERS
SUPPLIER BACK OFFICE
ADMINS

CHAIONE BEHAVIORAL
SCIENTISTS
GATHERING DATA

DESIGN
THINKING
TO FRAME
SOLUTION

Chevron Field Ticketing Process Today

- Segmented communications through phone, email etc. impact the ability of users to collaborate efficiently
- Chevron employees manually review and approve field tickets - each containing multiple pages
- Often takes months before field service is approved & paid, due to cumulative field ticket & invoicing issues/delays
- Projects have reconciliation issues due to a lack of real-time visibility into work done in the field.



Voice of the Customer

“The old school way of having a paper ticket is almost archaic. It causes the field reps to review it, scan it and email it when you should be able to do everything off of an iPad.”

– Chevron Facility Engineer

“When we’re missing ticket information from the field, we send out emails, texts, and make phone calls to try to figure it out. This causes major delays and uncertainty.”

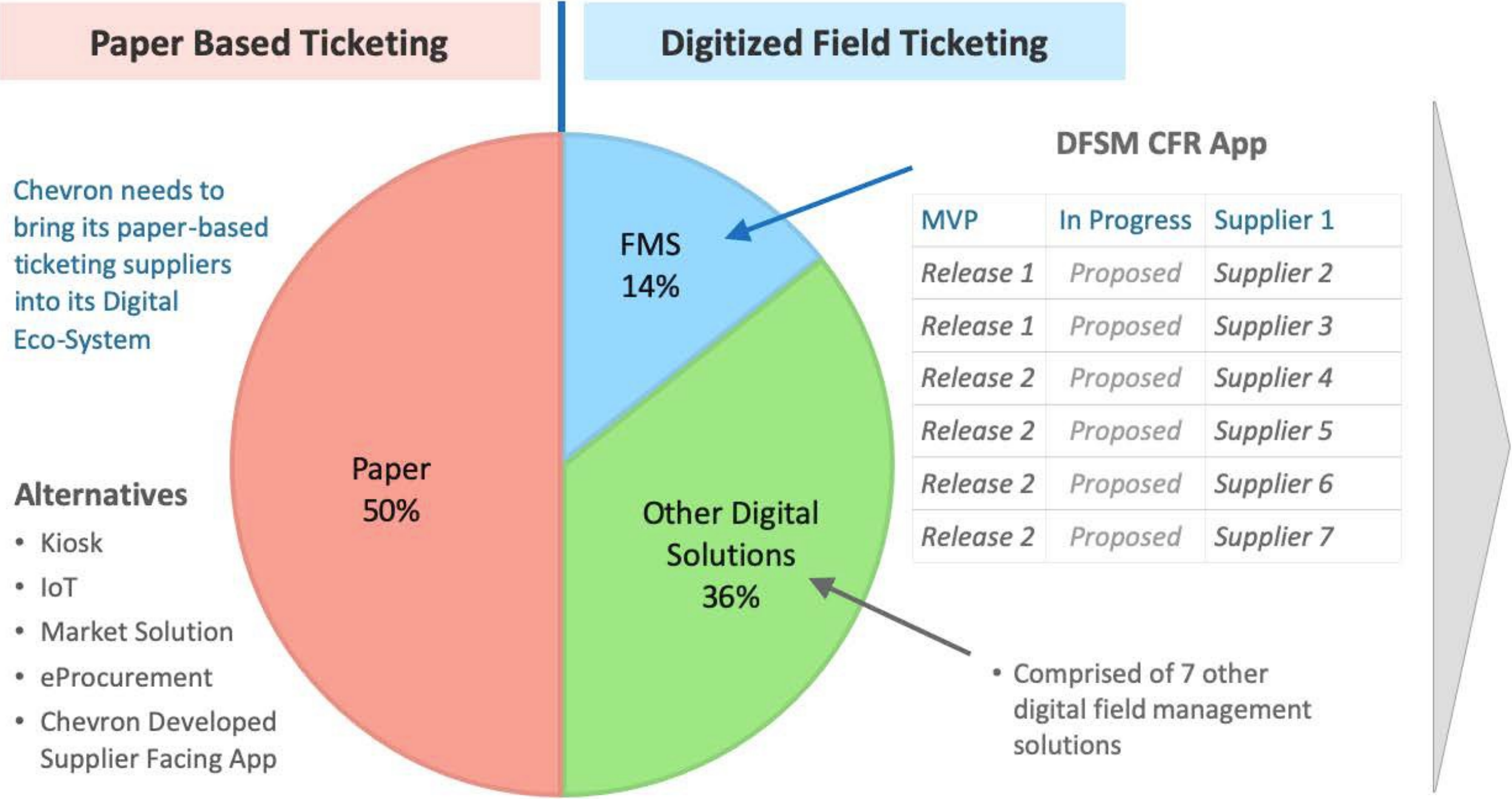
– Supplier Supervisor



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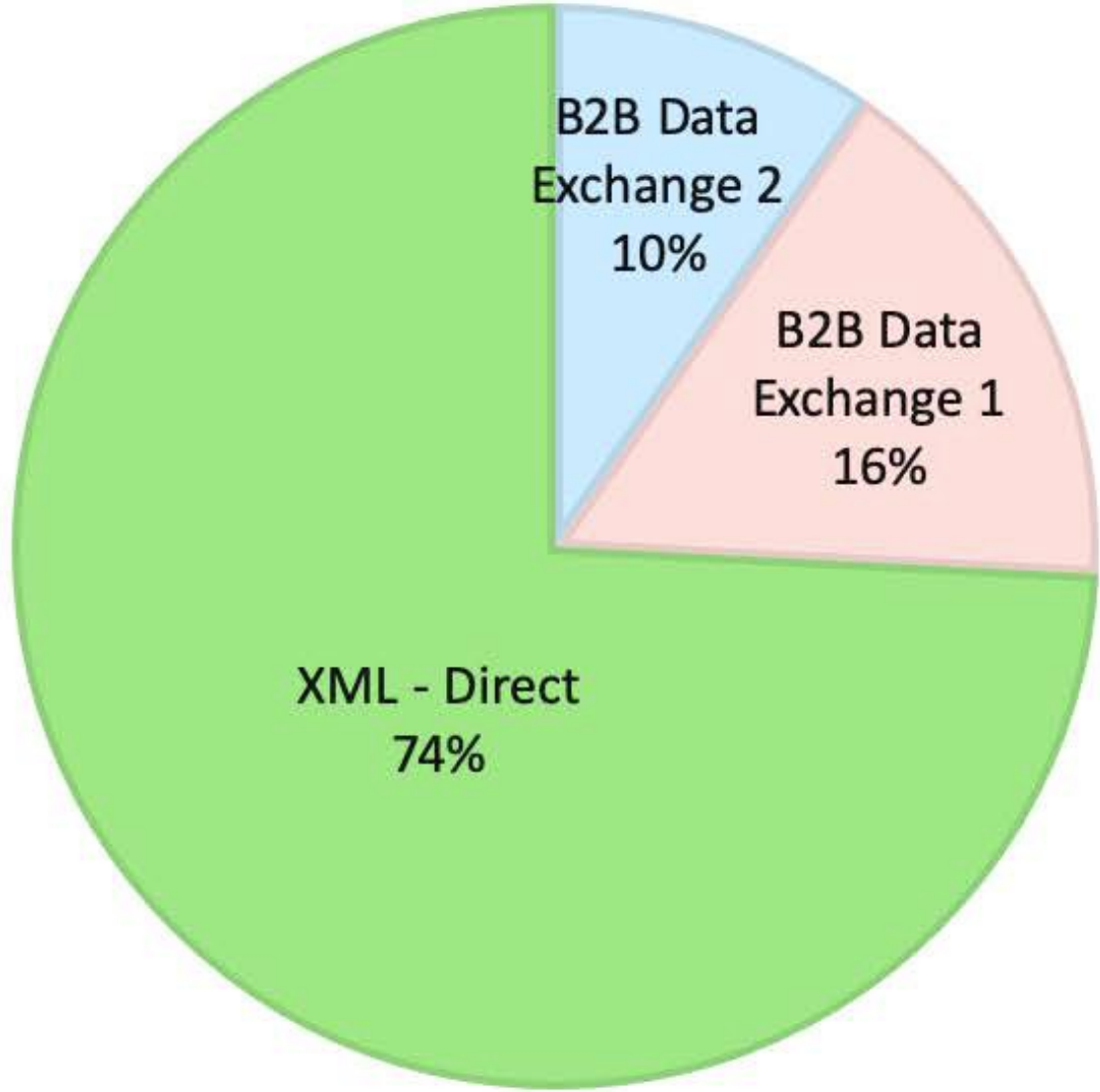
Supplier Assessment Findings

50% of suppliers are using digitized field ticket solutions (based on data from 28 suppliers)



Inbound Invoice Presentation

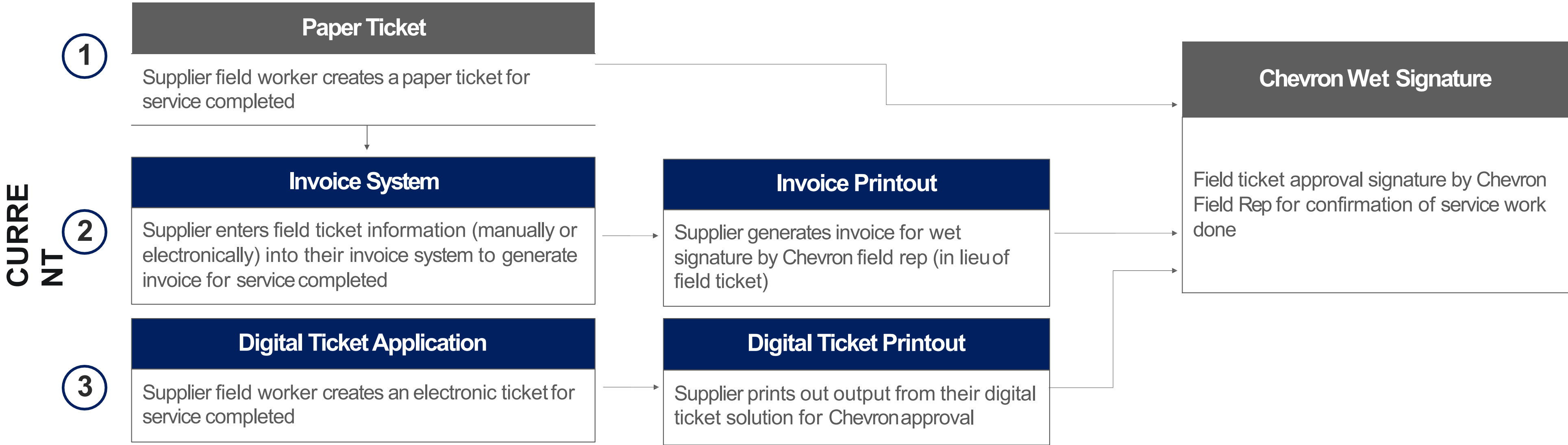
Includes paper-based and digitized field ticket suppliers



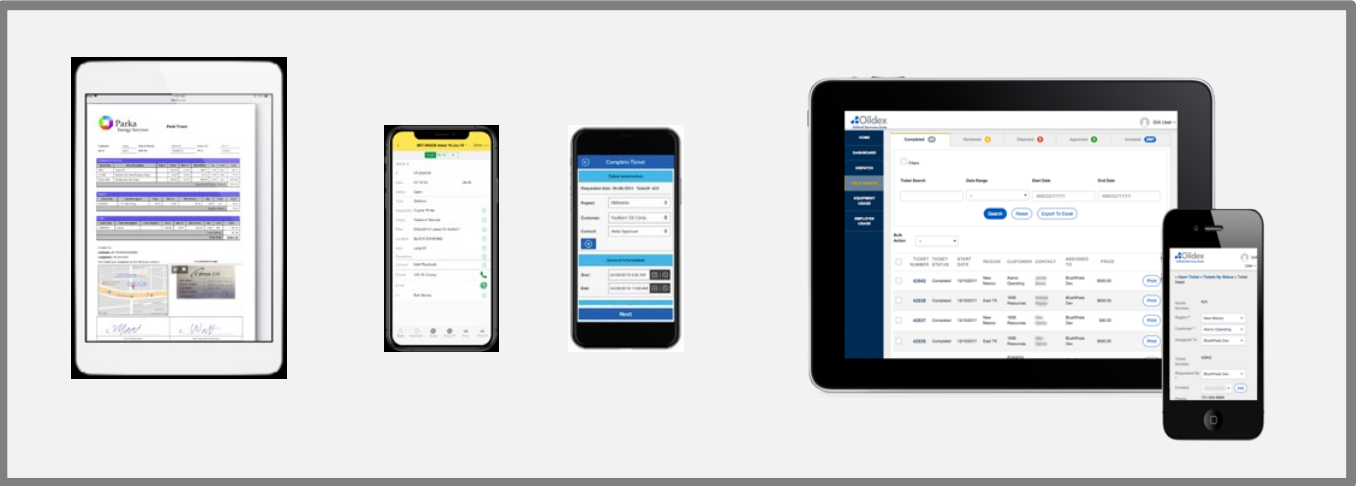
Note: Based on data from 31 current suppliers submitting PIDX enabled invoices to Chevron

Field worker digitization lacks maturity compared to middle office digitization.

Supplier Field Ticket Presentation Methods

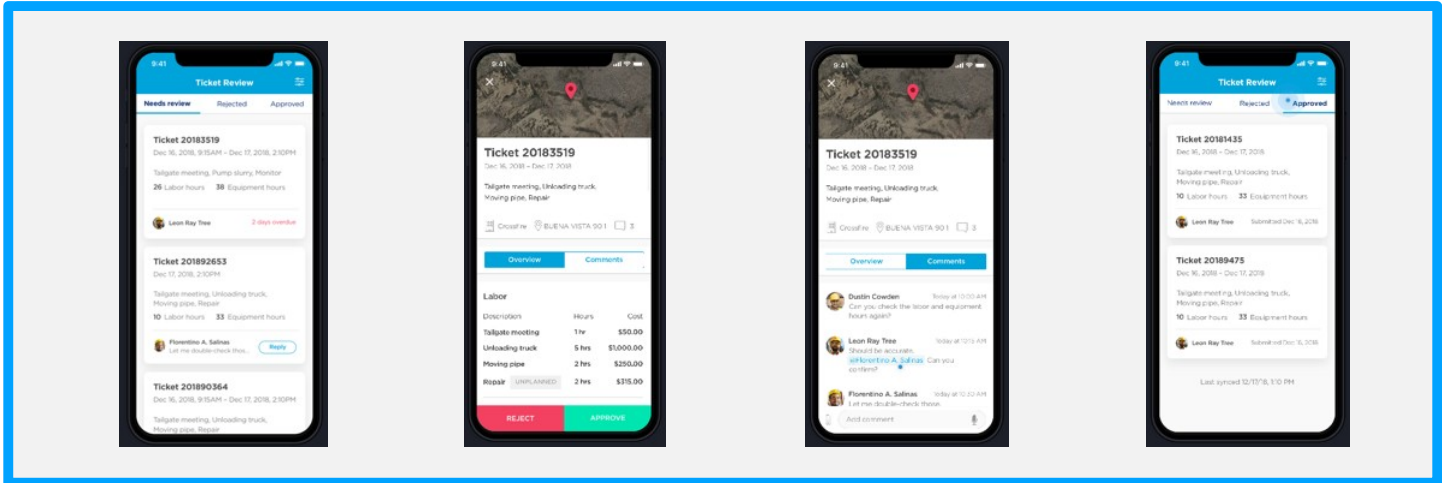


Supplier Field Ticket Data Sources [Existing]



API connection via PIDX

Chevron DFMS- Field RepApp [New Mobile App]



FUTURE

Supplier Facing API - Enabled by PIDX

The screenshot shows the Visual Studio IDE with a C# file named `PIDXFunctions.cs`. The code defines a `PIDXFunctions` class with several private service dependencies and a `SoapEndpoint` method. The `SoapEndpoint` method is decorated with `[HttpPost]` and `[Route("pidx")]`. It handles a POST request, deserializes the body into an `EnvelopeBody`, and then calls `permissionService.GetSupplier` to retrieve a supplier. If a supplier is found, it calls `ticketService.Create` to create a ticket, followed by `notificationService.SendNotification` to notify the supplier. The code also includes error handling for missing suppliers and tickets.

- For the backend, we created three Azure functions:
1. for PIDX implementation that service providers will integrate with
 2. that the app uses to display and approve/reject the tickets
 3. that the app uses to register devices for push notifications

The screenshot shows a Postman interface for a SOAP endpoint named "PIDX - Create Ticket". The URL is `https://apim-test1.azure.chevron.com/procurement-scm/field-ticket-pidx/v1`. The request is a POST with a SOAP envelope. The response is a 200 OK status with a SOAP envelope containing a `CreateFieldTicketResponse` object. The response includes details such as the ticket number, date, partner information, and contact information.

The suppliers will call the "CreateTicket" PIDX endpoint (which we can simulate with Postman)

Thank You!

