B7: Technology

Set out what technology solutions you would utilise on the contract, how technology and data would be utilised to deliver service efficiencies, and how you would adopt innovations and evolutions through the life of the contract. Describe how your solutions will ensure accessibility for all users.

The Royal Borough of Kingston Council (RBK) will benefit from tried and tested applications, developed, and customised to address RBK's requirements.

Conduent solutions provide demonstrated experience and capability to integrate with a variety of software systems for the successful management of Penalty Charge Notices (PCN) processing, Permit management, and the customer engagement portals to support the parking management journey.

Conduent will deliver technology to enable the capture, management, progression, and recovery of notices, in accordance with relevant legislation.

As shown in Figure B7-1, below, Conduent has divided our technologies under four main headings to support our local team in RBK with advanced in-house technology, to supplement their knowledge and experience, enhancing our service delivery to provide significant service and cost efficiencies.
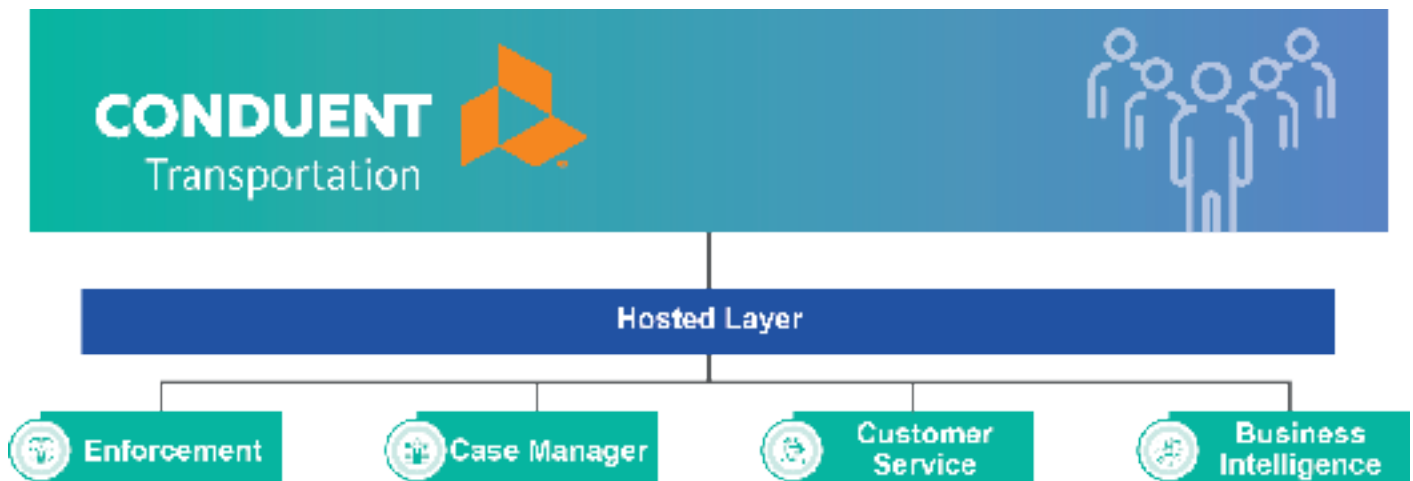

Figure B7-1: Council staff and the Local Conduent team will benefit from market leading solutions, which will continue to be developed to support the changing needs of the service.

Hosted Layer

Services are supported through a Conduent managed hosted solution, ensuring optimisation to support the parking applications and the integration needs of RBK throughout the contract term.

Conduent has invested in a review and redesign of our infrastructure, which included details of the power, physical security, uninterruptable power supplies, standby power generation and green credentials of our equipment and location.

Conduent shall migrate your back-office system from the existing NSL servers and all attached services to our Tier 3 Data Centre in Hampshire.

Conduent hosting services have specifically been designed to support the Conduent product suite and RBK shall be provided with a live and user acceptance testing (UAT) environment as part of our service.

Our Data Centre is ISO9001, 20000, 22301 and 27001 compliant and our team shall manage the transition to the Conduent platform. The Data Centre has exceptional perimeter security, with entry to the building requiring pre-authorised access through a turnstile and secure anti ram vehicle gates.

Our hosting solution includes highly performant and resilient enterprise level servers and storage, full Disaster Recovery capability – including replicated services, a dedicated infrastructure support team based in the UK, full system monitoring and alerting of critical applications, and an SLA of 99.95% uptime, with the service monitored 24 hours a day.

Through the deployment of our applications on Conduent owned IT hosted infrastructure, we shall provide a fully integrated system as shown in Appendix B7-1, which is a schematic of how these elements integrate with each other.

Accessability

Our services prioritise accessibility for all users by adhering to standards such as WCAG, employing user-centric design, and integrating assistive technologies.

Conduent produce content in various formats, ensure intuitive interfaces, and conduct regular testing for continuous improvement.

Team training sessions, user feedback, and proactive problem-solving contribute to our commitment to inclusivity, fostering an environment where every user can engage seamlessly.

Conduent will continue to monitor customer journeys and interactions and ensure any technology route has a corresponding touchpoint for non-technology.

Enforcement

Supporting our on-street teams is critical to the success of the service. Supplying our teams with cutting edge technology solutions, providing access to the right information at the right time, is critical to our success. Figure B7-2 below illustrates the elements of technology we will deliver to our local teams.
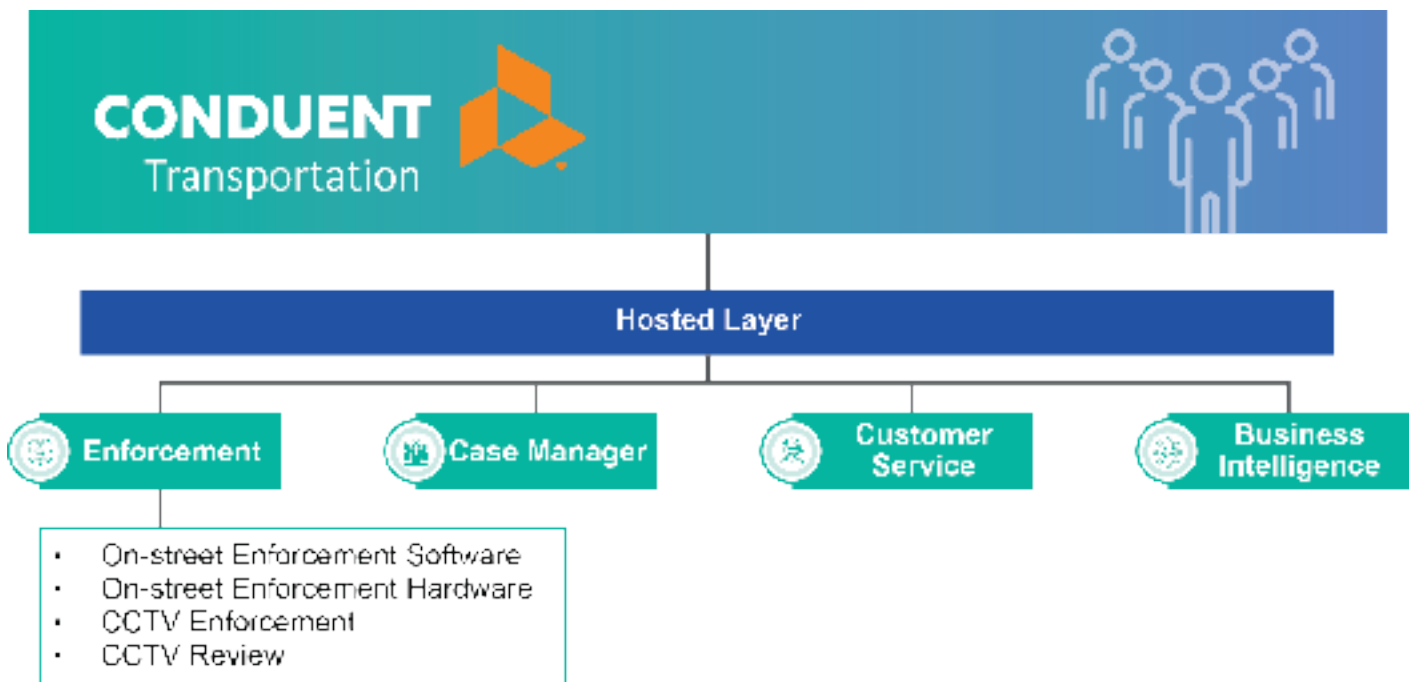

Figure B7-2: Conduent Enforcement Technology

Conduent will continue to provide service innovations to Compliance Handheld unlike any traditional operator could offer, as we are the only service provider who uses their own enforcement software.

On-Street Enforcement Software

Conduent enforcement officers are provided with their own handheld device, accessing Compliance Handheld (CHH) and any other mobile applications both Conduent and the Council agree to throughout the contract term.

The Conduent developed Android Application, CHH, offers the flexibility required to support PCN issuance and is currently used by our staff at Oxfordshire County Council and Reading Borough Council, with an additional 1800 devices used by other operators including local authority in-house operations.

Features of CHH include:

Realtime Connectivity	CHH utilises the latest real-time data connectivity via 3/4/5G, allowing real-time data transfer from the device while the CEO is on-street. Meaning a PCN issued can be accessed by an offender within five minutes of it being placed on the windscreen.
	This also means CEOs are no longer required to return to base for a download, supporting deployment from home.
	PCN and on street log data is sent in real-time to the Notice Processing system, for live reporting on team performance including location visits.
Not Limited for Enforcement Activities	CHH can support site surveys for car park checks, including location specific assets. With the information being shared in real-time with the appropriate departments, through system integrations for any faults found.
	This functionality allows for the logging of customer interactions with members of the public. This is completed by selecting simple dropdown menus to minimise any operational delays. There is, however, value in collating the reporting on the positive impacts our staff have within the community.
Intuitive Ticket Issuance Flow	CHH supports both PCN and Fixed Penalty Notice (FPN) enforcement, with configurable limited waiting and no return times per location, allowing accurate data capture per location.
	When a bay or street is configured to the exact restriction, the CEO no longer needs to track every observation, Compliance Handheld does so automatically, reducing CEO errors and cancelled PCNs.
	When using the CHH, CEOs can either type in a Vehicle Registration Mark (VRM) or scan a VRM using an Automatic Number Plate Recognition (ANPR) module. This will always be requested again, later in the process, to ensure the ANPR read was accurate.

Figure B7-3, overleaf, shows the defined process for CEOs to follow, with full audit capability including GPS location and date/time stamps.
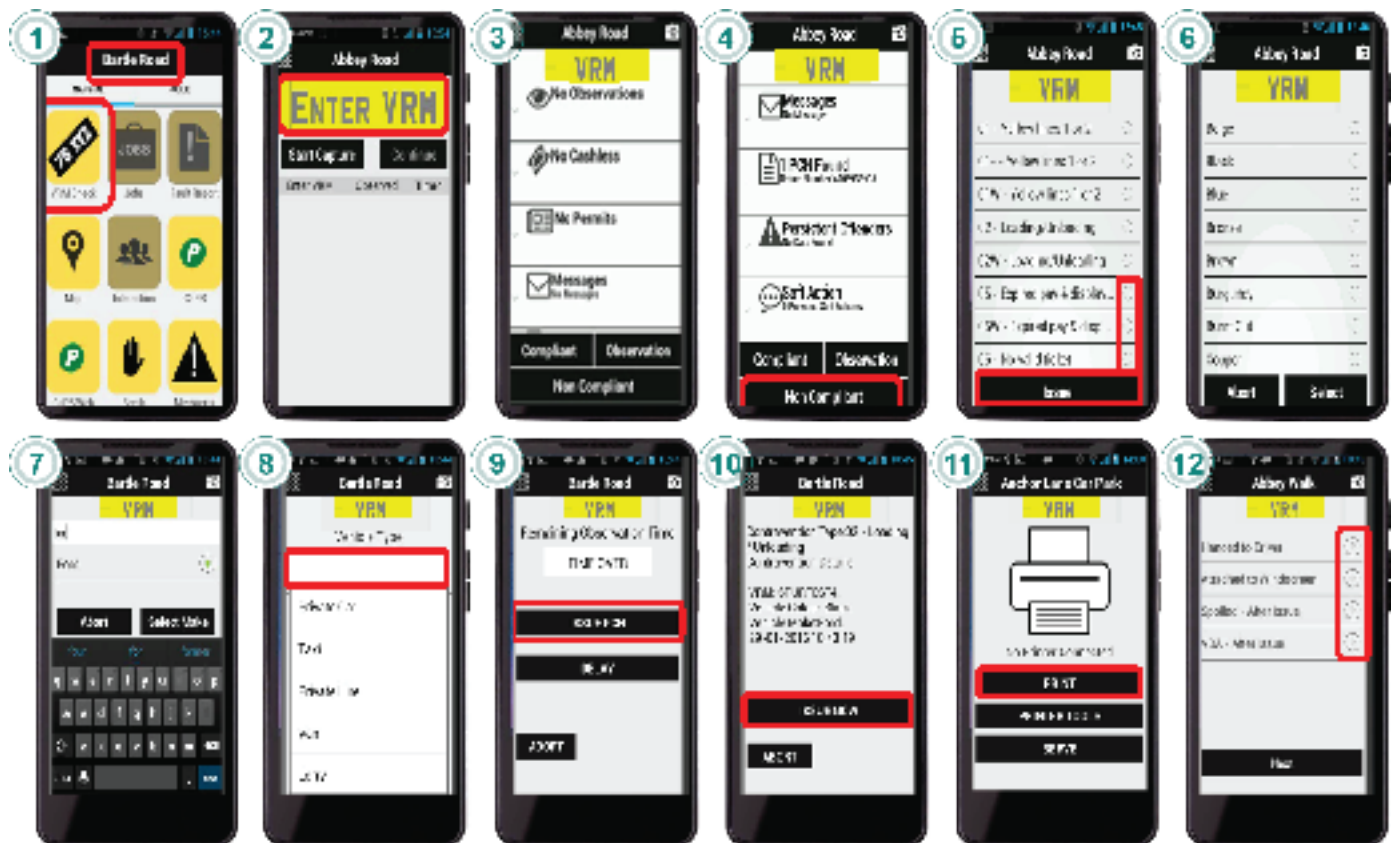
Figure B7-3: Compliance Handheld Issuance Process Flow

Through the lessons of over 20 years in developing handheld enforcement applications, we have continued to work with our on-street teams to refine the enforcement process for the CEO to be as seamless as possible.

Continued Product Evolution: Through connecting our development and on-streets teams in Oxford and Reading, we have made software changes to enhance their experience and provide operational efficiencies. Examples include:

- **Second VRM Lookup:** Allowing CEOs to complete a second VRM lookup at the end of the issuance process. Providing information such as cashless lookups, which may have been purchased during the issuance process.
- **Configurable Waiting Times:** Support limited waiting by bay, street & zone
- **Valve Position Evidence:** Allows CEOs to capture valve position photos and notes when logging observations. Providing supporting evidence to the back-office team when responding to challenges.
- **CEO Actions:** Allowing users to log actions such as breaks or admin duties, ensuring their time is allocated to a specific role throughout the day, for future management. This is used within our contract in Oxfordshire to understand differences in travelling time and other non-enforcement duties that staff must complete as part of their shift.

Mobile Device Management (MDM)

Compliance Handheld is supported by the SOTI (MDM) application to manage deployment and the testing of the software in a controlled way.

This includes test builds for the purposes of application upgrades, which will allow Conduent to access devices remotely including taking control of the device while out on street, as well as wiping the device should it get lost or stolen.

On-Street Communications

Conduent have selected Zello to support the team with a direct voice communication solution Each CEO will be provided with direct voice communication capability with the operational base through the Zello application on their handheld devices.

Zello provides a modern approach through the provision of unlimited and secure private channels over cellular networks and Wi-Fi.

The Zello application is successfully deployed with Oxfordshire County Council and Reading. Operations Director, Trevor Taylor, has direct experience of the solution in action and says:

> Using Zello, on-street operatives can share their location, photographs, text, voice notes, and engage in direct voice communications both with the base and colleagues. The introduction of Zello for on-street staff has increased staff engagement on-street compared to traditional radio use."
>
> - Trevor Taylor
>   Operations Director

On-Street Enforcement Hardware

Conduent has over 20 years' experience sourcing on-street enforcement hardware to meet requirements.

Following our review of devices available today, Conduent has selected the CAT S75 handheld device, Seiko DPU-S445 printer and D3 body worn camera for our enforcement team.

Handheld Device

Figure B7-4, overleaf, shows the review of the CAT S75 device against other available options, leading to our decision.

	CAT	CAT	Samsung	Samsung	Zebra
Brand	CAT	CAT	Samsung	Samsung	Zebra
Model	S42	S75	XCover6 Pro	A33	TC77
RRP	£239	£499	£589	£329	£2,286
Warranty	3 Years	3 Years	2 Years	2 Years	1 Year
Operating system	Android 12	Android 14	Android 13	Android 13	Android 14
Weight	220g	268g	235g	186g	349g
Display	5.5" HD+	6.6" FHD+	6.6" FHD+	6.4" FHD+	4.7" FHD+
Screen	Corning Gorilla Glass 5 Hygiene+	Corning Gorilla Victus Hygiene+	Corning Gorilla Victus	Corning Gorilla Glass 5	Corning Gorilla Glass
Rugged Credentials	IP68, IP69 & MIL-STD-810	IP68, IP69K & MIL-STD-810	IP68 & MIL-STD-810	IP67	IP68
Camera	13MP	50MP	50MP	48MP	16MP
Battery Capacity	4200mAh	4200mAh	4200mAh	4200mAh	4200mAh
Battery Stress Test	18hr37mins	15hr41mins	9hr32mins	11hr44mins	15hr39mins

Figure B7-4: Device Comparison

Conduent ensures that any devices are optimised to run our software applications and will also support our staff while on-street.

Printer

Figure B7-5 below illustrates the benefits offered of the Seiko DPU-S445:

Easy Load Operation
Supporting label and cut sheet paper

High-Speed Printing
Maximum print speed of 90 mm/sec

Compact and Lightweight
245 x 135 x 58mm

Bluetooth Capability
Bluetooth technology to allow CEOs to print tickets

Figure B7-5: Seiko DPU-S445 Overview

Conduent ensures that any devices are optimised to run our software applications and will also support our staff while on-street. Conduent has continued to provide the Seiko DPU-S445 to local authority managed enforcement services and as part of our services more recently in Reading with no services issues to report.

When connected to Compliance Handheld the Seiko DPU-S445 will print PCNs, including warning notices, in a format that is compliant with current legal requirements, and will be reviewed as legal requirements change throughout the contract term, supporting different ticket formats such as PCN, FPN, Warning and Information Notices.

CONDUENT
Transportation

Body Worn Camera

Conduent has selected the Reveal Media D3 body worn camera solution. Conduent shall issue CEOs with body worn cameras as part of the standard uniform.

First used by Conduent as part of our Oxfordshire County Council enforcement service, the D3 devices are rugged, waterproof, and durable to a rating of I

P65. The devices are capable of recording in ultra-low light conditions at 0.05LUX in 30 FPS. While the weight (155g) and size (H:100mm W:60mm D:26mm) allow any CEO to wear the device comfortably on their uniform without issue.

CCTV Enforcement

The Council focus on community safety and improving traffic flow for key transportation routes aligns perfectly with the traffic enforcement features of Conduent's CCTV enforcement system, which provides the flexibility to enforce in virtually any situation.

Conduent can provide a complete turnkey solution, from site analysis and equipment to data processing capability, drawing on over 25 years' experience in CCTV enforcement globally.

The UK camera system, which is VCA certified, has been designed to be flexible, using the latest technology available. Allowing a single camera system to enforce a complete range of contraventions, from bus lane contraventions and moving contraventions to enforcing clean air zones and zero emission zones, as we currently do with Oxfordshire County Council.

The Conduent solution is built as a modular platform that has been designed to operate and gather compelling HD evidence of contraventions in all weather and lighting.

With optional IR flash dependent upon location and lighting conditions. The Conduent camera solution is rugged (aluminium and IP66 rated), small, lightweight, and designed for rapid redeployment.

CCTV Review

The Conduent review application securely handles a high volume of contravention data, all fully VCA Certified.

The platform allows the Council to set parameters for data access permissions at the user and individual module levels. Unique usernames are assigned to authorised end users, who are granted access to only the system modules that they need to perform their job duties. The system is accessible 24/7 for all authorised users.
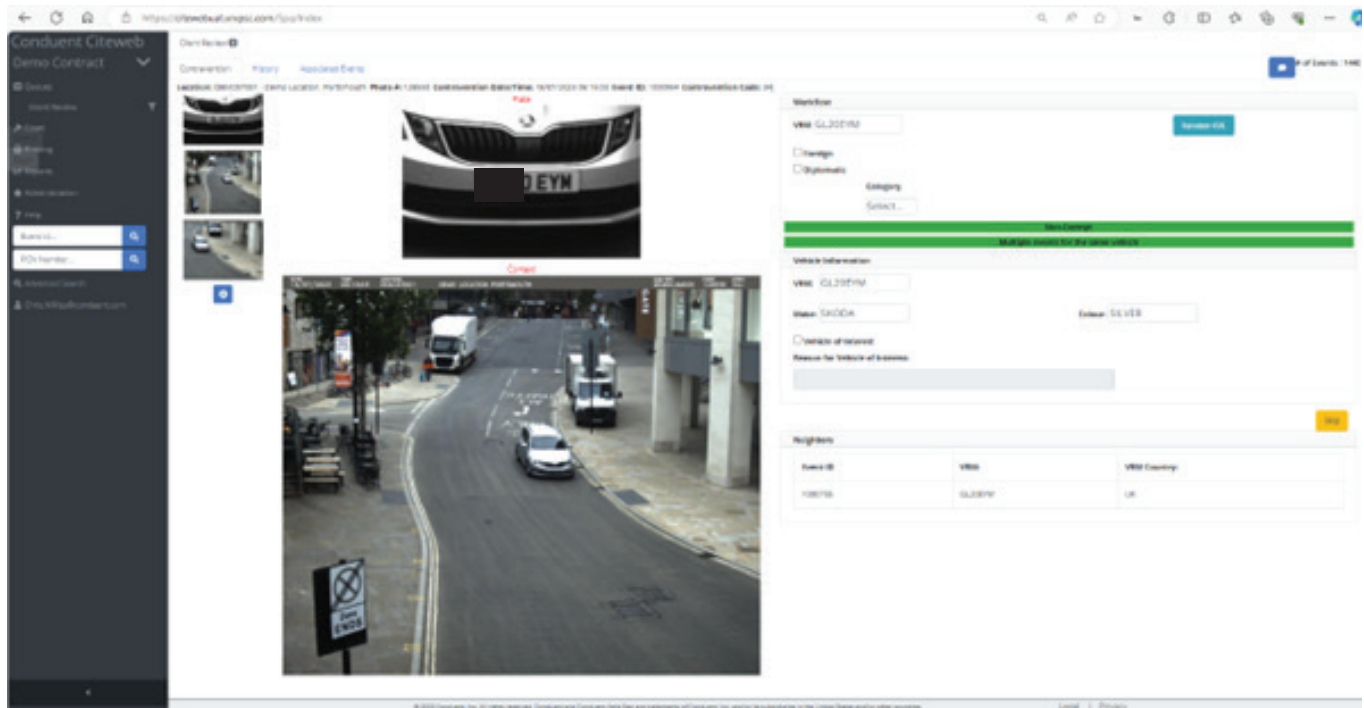

Figure B7-6: Conduent CCTV Review Screen

Conduent has successfully deployed our end to end CCTV enforcement solution in Oxfordshire County Council with users sharing their delight of at the benefits it offers as part of the user experience compared to alternative solutions.

Benefits provided by users, who had user other systems, include:

- **Image Selection:** Simple selection of three supporting images to be sent on the PCN - a plate read, a close up and a context image. Conduent set the camera to automatically choose these three images for the reviewer to confirm or replace with their own selection.
- **Permitted Vehicle List Management:** Enables effective permitted vehicle management either as a single entry or as a bulk import. Interfaces with DVLA to allow automatic population of Make and Colour of all vehicles during review.
- **Double Jeopardy:** Is a rule configurable in line with Council policies either by a single location or a group of locations, presenting the first evidence pack for processing and associating the subsequent evidence packs in the associate events tab.

Case Manager

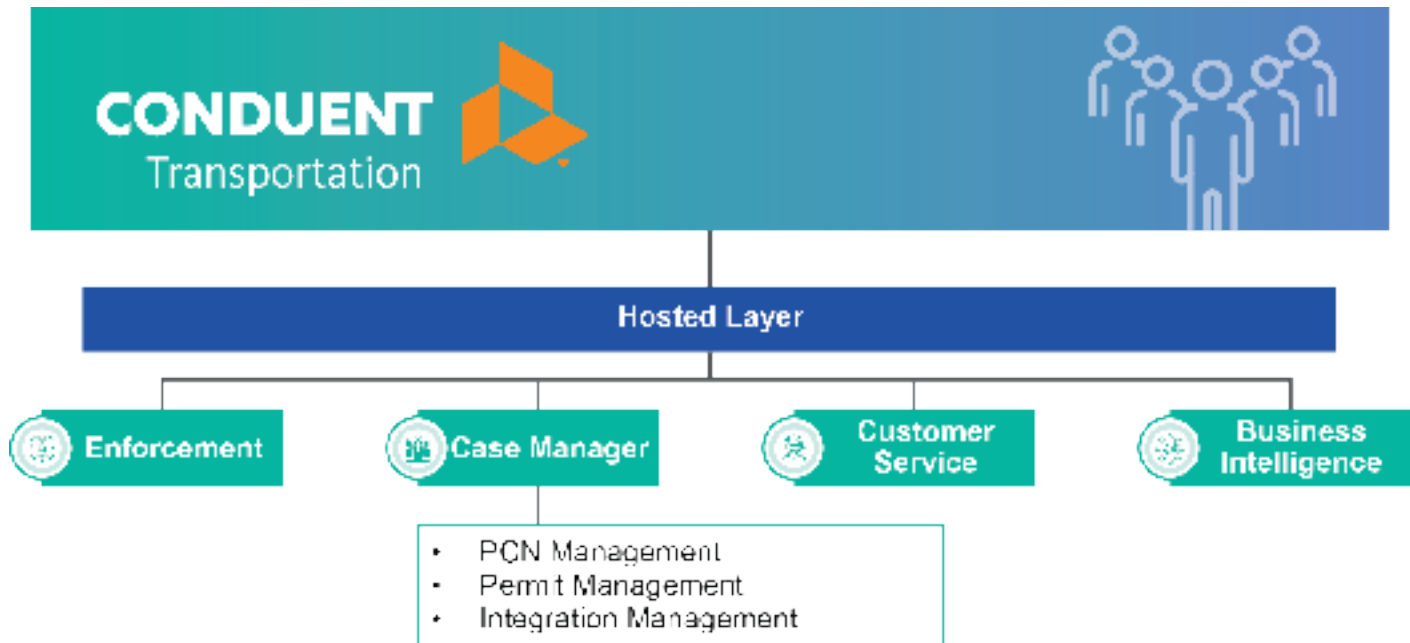Figure B7-7 below illustrates the elements of technology we will deliver to our local teams.

Figure B7-7: Conduent Case Management

Using fully developed processes, developed over 20 years od service in some of the largest UK parking operations in the UK, our solution shall meet all Kingston requirements.

PCN Management

The Conduent Notice Processing System (NPS), Si-Dem, is capable of issuing parking related fines, as well as Fixed Penalty Notices (FPNs) and all CCTV related parking offences. Separated by Debt Type for a clear distinction between notices and offering further flexibility in processing options.

All configuration items included below can be added, amended, or archived via the configuration module, allowing for quick and controllable configuration management:

- Debt Types, enabling further expansion to any parking service.
- Contravention Codes, including terminology used, sub-codes, costs, and limited wait/no return configuration.
- Streets, carparks, and zones, including offence configuration.
- CEO and back-office users, including flexible permissions per type of debt.

To meet RBK business and debt management rules, the NPS is highly configurable, supporting both legislative dates and 'system days.'

Case progressions can be reconfigured as required by RBK or by legislation. A recent example of change is the automated warning notices and case management for Bus Lane offences, and Moving Traffic offences, including the complex six-month warning notice for individual location, successfully delivered and live in Oxfordshire County Council.

Back-office progressions are defined using the concepts of "Events" (actions that happen to PCNs) and "States" (stages of progression that a PCN can be in).

The system uses these States and Events to drive our workflow. This provides the ability to include any 'additional' stage which may not be contained within the defined legislation frameworks. This offers RBK further functionality within the system, ultimately leading to efficiency gains.

Events can be triggered either automatically by the back-office system, manually by users, or from external triggers (such as payment from cash receipting systems) with no limit on the number of cases included within

a batch.

Providing this powerful State and Event mechanism reduces the manual intervention that users must undertake to complete tasks.

For example, the acceptance of a Challenge Letter and Case Cancellation can all be accomplished by simply replying to the incoming letter with the appropriate 'Challenge Accept' letter template.

Local Configuration Options

Events trigger Si-Dem to deploy bespoke processes. Working collaboratively with RBK and our business processing team to gather requirements, Conduent shall work to understand the exact process to follow. This is a mechanism utilised successfully for several service deliveries.

Our back-office tooling supports allocation and distribution of cases such as those created for a warrant.

Conduent can configure Si-Dem to support multiple Enforcement Agents based on a randomised percentage split through a simple warrant management tool, as shown in Figure B7-7, below.

Figure B7-7: Si-Dem Warrant Management Configuration

It allows percentages to be changed by the user as and when required. Allowing for greater control over what and how cases get allocated to enforcement agents. While also having the flexibility to update & manage case allocation on an ad-hoc basis in line with the enforcement agent's performance.

Conduent has also worked with our clients and their Enforcement Agents to develop a unique process which allows the Enforcement Agent to transfer a list of vehicles/warrants they wish to be informed about when observed by Civil Enforcement Officers (CEOs) in the geography.

When a cashless session is imported or an observation is made by a CEO matching one of the Vehicle Registration Marks (VRMs) in the list, an email is sent to the Enforcement Agent and RBK. This capability can be expanded for other uses such as the Police or fleet managers and is something we are currently exploring with CDER group, in support of providing them with all the information needed to reduce the time between a warrant being issued and payment made.

Permit Management

The Permit Module within Si-Dem is tightly integrated with the other modules of the Conduent Parking applications including PCN management, reporting, correspondence, and configuration.

Valid Permit information is also required by Compliance Handheld for the CEO to query the compliance of a specific VRM. Should any information be available the information is then passed back through the process to be presented to the CEO on street.

Our permit module is configured from the ground up, removing the need for any development when creating a new permit type. The permit module also supports emissions-based rules as standard. This offers RBK future-proof flexibility without any large development costs.

The permit system fully supports both virtual and paper permits, and this can be configured per permit type and amended during the contract term, as required, with very little configuration changes.

Conduent has technology in use today within many local authorities where a permit is still printed, either by the permit holder themselves via their own printer, formed from a tailored email layout or a traditional perforated disc supplied by the Council.

The CEO shall always use the real-time data provided on the Compliance Handheld, where VRM details are verified through the back-office to confirm the permit is still valid. In addition to information on cashless parking sessions, persistent evader information and any VRM specific messages in the Si-Dem message board.

Integrations

Conduent has developed and delivered interfaces which allows RBK and our service to query and extract data from the Si-Dem system and third party applications. This includes:

- Cashless parking and pay and display sessions for enforcement.
- Council Tax records for automated permit application approvals.
- DVLA, for CCTV and vehicle type look ups.
- Print Fulfilment.
- Incoming Correspondence, including scanned documents and emails.
- Payments, including IVR and through the web.
- Accounts / Finance, supporting end of day files from 3rd party Council solutions.
- London Councils.
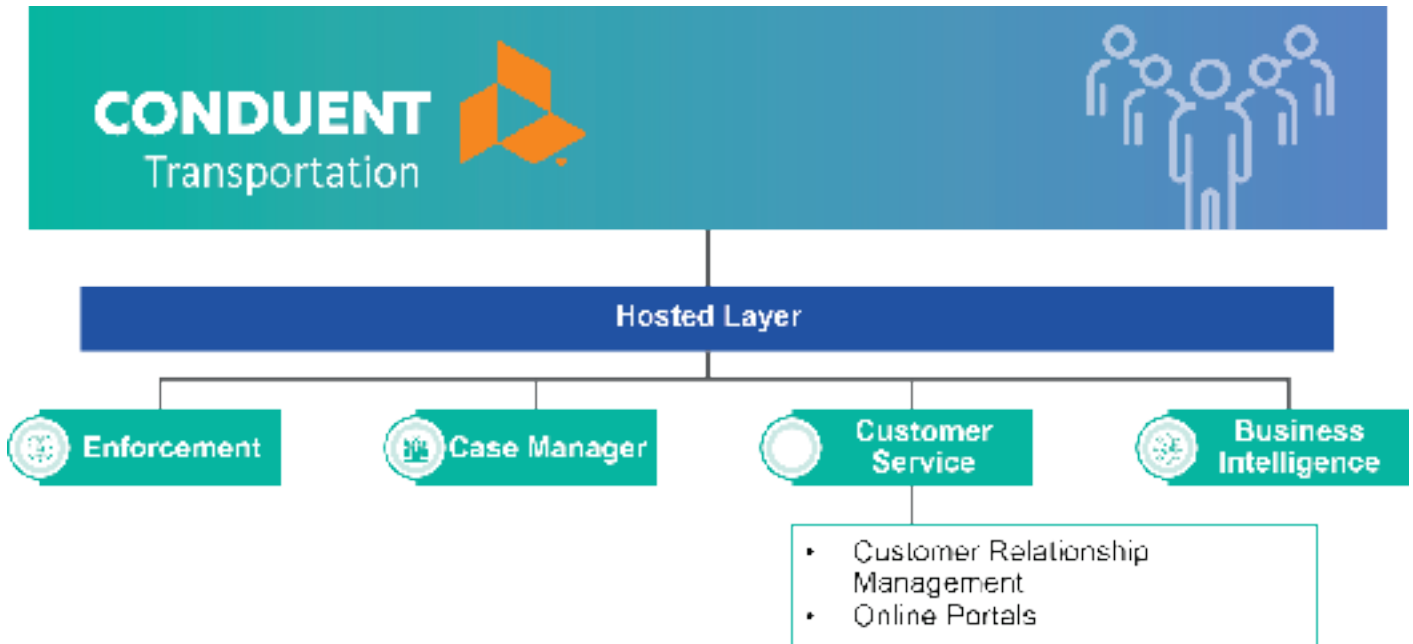- Traffic Enforcement Centre (TEC).

Figure B7-8: Conduent Customer Service Technology

Customer Relationship Management

Effective customer relationship management is an ongoing process that requires attention, adaptation, and a customer-centric approach to ensure long-term satisfaction.

Users, such as residents wanting to report someone parked on their dropped kerb, will be able to share the required information directly with our operational teams, who will be able to respond to the query. Subsequently, it will be possible to report by type of query and provide response times back to RBK through a real-time dashboard.

Conduent will use a combination of strategies and tools to ensure effective communication, support, and engagement. Including:

- **User-Friendly Interface:** As shown in Figure B7-9 , Conduent will brand the customer facing portal with the RBK logo and colour schemes and design the process flows to be intuitive and easy to navigate. Ensuring any user can report their query easily, whilst ensuring we capture all the information needed to complete responses.
- **Feedback Collection:** We will request user feedback to gather insights from customers. Exploring a combination of Surveys, feedback forms, or suggestion boxes to help understand customer needs better and improve our service.
- **Analytics and Reporting:** We will analyse data to track user behaviour, for trends such as use of the correct dropdowns and review pain points, allowing us to make informed decisions for improvements.

Providing users with an easy-to-use web form that can be tailored to each request type, allowing us to capture all details required.

Once completed, the request details will be pushed into the workflow element, allowing for users to process each request and in turn respond to the users directly.

Figure B7-9: General Enquiry / Enforcement Request Form

Conduent has created an easy to navigate form, which directs information to the right team based on the type of enquiry.

Customer Relationship Management

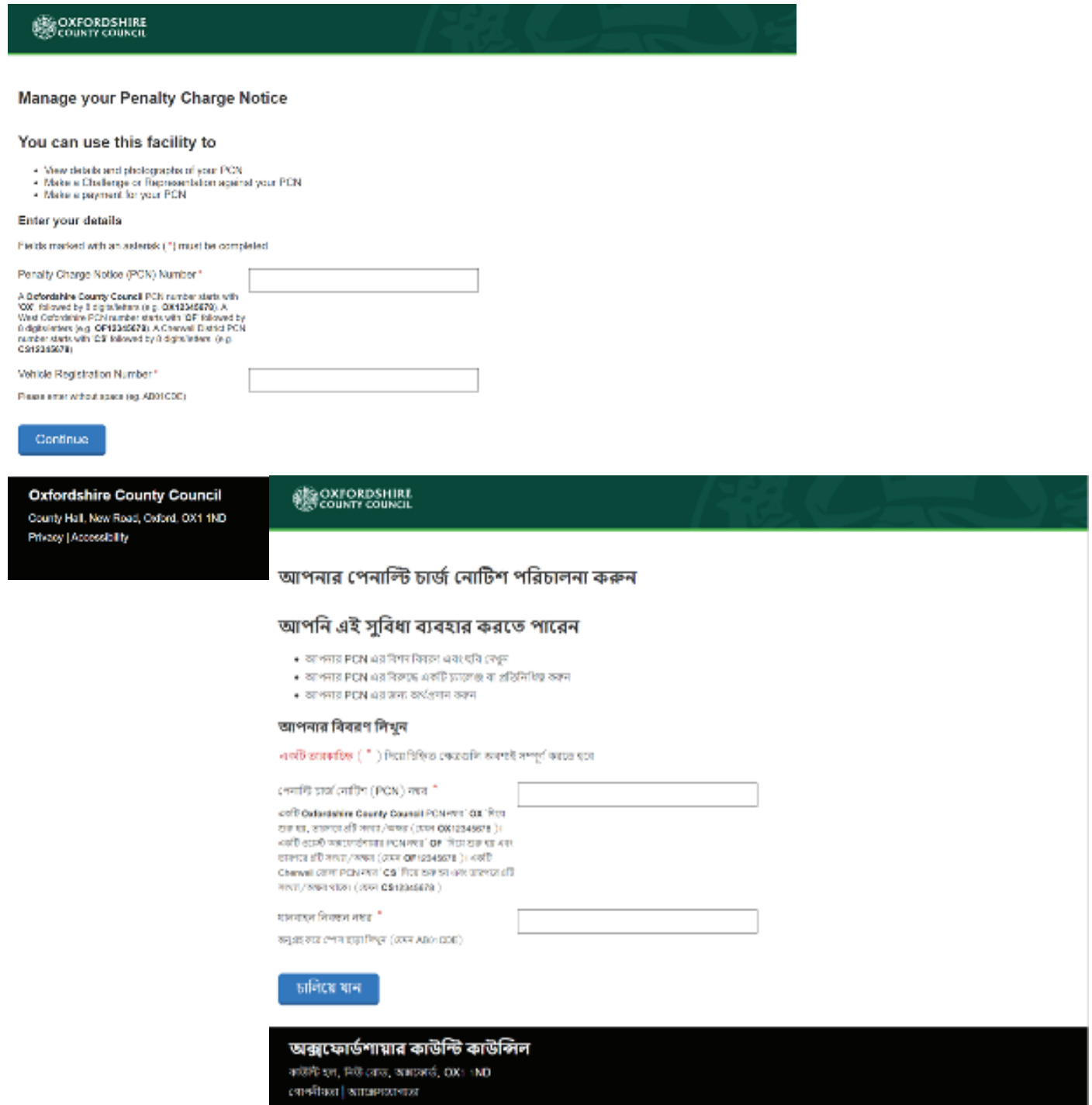Our online portals support case management for PCNs and Permits.

A PCN is managed dependent on the state of the case, configurable per client and throughout the contract duration, will allow a member of the public to:

- Access pages with the visual impression of existing Council webpages, using Council style sheets as in use today.
- View their PCN details including photos and/or video, as well as information collected, as part of the issuance process.
- Challenge their PCN, where the case is at the discount stage and no payment has been received.
- Make a Representation, selecting reason for making a representation.

- Allow evidence to be uploaded in non-editable formats such JPEG and PDF formats with a maximum size of 5Mb per article.
- Provide a confirmation email to the customer that the correspondence has been received

The application will not support a customer making a single representation or challenge on numerous PCNs, as each should be reviewed and responded to on its own merits, and this is not a change Conduent intend to make to the application for all clients.

Figure B7-10 shows an example of the screen at Oxfordshire County Council in English and Bengali, as we note the languages offered for telephone calls on the Council website include English, Bengali and Syheti and the platform supports language changes through local browser settings.

Figure B7-10: Conduent Online Case Management Style Sheet

The application will be configured to RBK web styling and the application allows for the language to be defined by the internet browser settings.

Our application-based Permit portal can be accessed through a range of devices including a computer, a tablet, or a smartphone.

The standard features available within the Conduent solution include:

- Creating permit applications: Permits configured in Si-Dem can be made available online for customers to self-serve.
- Permit renewals: Enabled per permit type, the online portal can allow for renewals to take place with configurable rules on whether further proof documents are required and whether these documents need to be provided at every renewal.
- Zoned and non-zoned permits: Permits configured in Si-Dem can be set by pre defined addresses (zoned) or allow anyone to apply irrespective of their address (non zoned). This is configurable per permit type.
- Vehicle Registration Mark (VRM) lookup. Through integration with the DVLA, we can pull vehicle information back, creating a better customer journey for the applicant. These details are presented to the applicant. Once saved these details can be used as part of the pricing rules, allowing for charging based on a multitude of parameters including fuel type and emissions.

Building on this system, Conduent is introducing a user account portal, allowing customers to log-on, and manage permits associated with their account.

Although not currently launched, Conduent is committed to delivering this to RBK highlighted within our permit development roadmap below. Figure B7-11, shows the Permit Management roadmap.
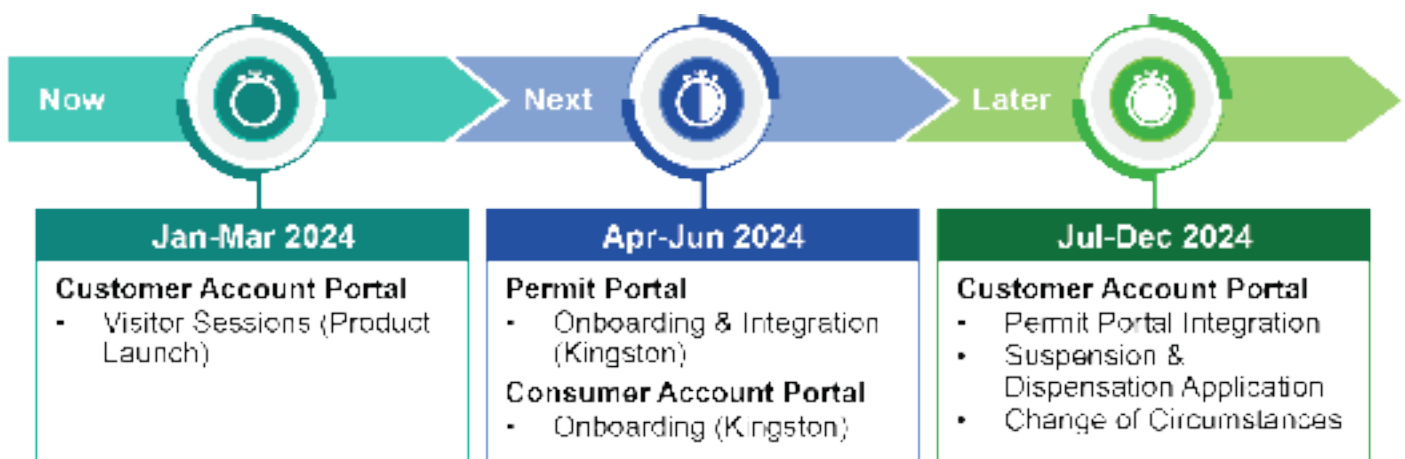

Figure B7-11: Permit Management Roadmap

Conduent is committed to delivering an integrated permit account application which meets and exceeds the needs of Kingston stakeholders.

Once registered, customers with an account will be able to log-in, and securely associate existing permits with their account. Users are also able to view any existing permits associated with their account.

Using the EasiPermits functionality as the core for this solution ensures that the same pricing is available to anonymous and authenticated users and enables both portals to run in parallel when required.

Conduent's Identity and Access Management (IAM) solution ensures a unified user experience, giving your customers a familiar and user-friendly login experience.

Upon logging in, as shown in Figure B7-12, customers will be able to purchase new permits, or activate existing/unused visitor permits.
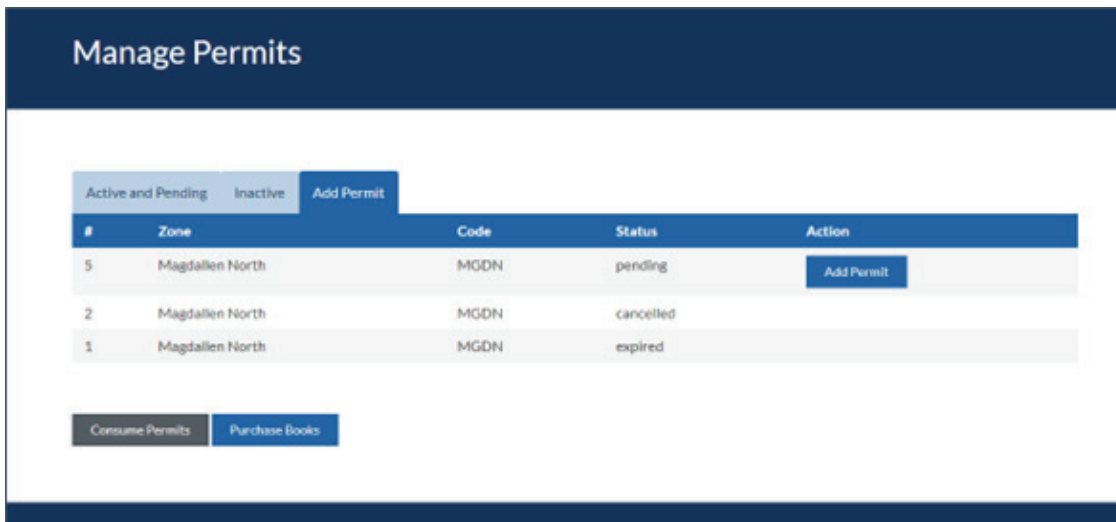
Figure B7-12: Consumer Account Portal

Customers can call off sessions as needed to manage visitor sessions through the virtual portal, removing the need for physical scratch cards.

Customer Basket & Virtual Visitor Permits

As well as customers being able to apply, Renew and pay for a resident permit, they can also purchase 'books' of virtual visitor permits to be activated later. The number of virtual visitors permits available to each registered user can be limited based upon system rules and configuration.

If a customer with an unused allocation of virtual visitor permits logs into their account, they are able to view unused, and recently used, permits. If there are unused permits available, the user can select a permit from their previously purchased books and create a virtual visitor session for a chosen VRM.

When a user activates a virtual visitor session, they input the VRM, in addition to choosing the date and time of the session. Multiple sessions can be added to the "basket", allowing users to create multiple sessions at once.

Once the customer is happy with their selections, they confirm the permit uses, and a parking session is created for the chosen VRM for the chosen period.
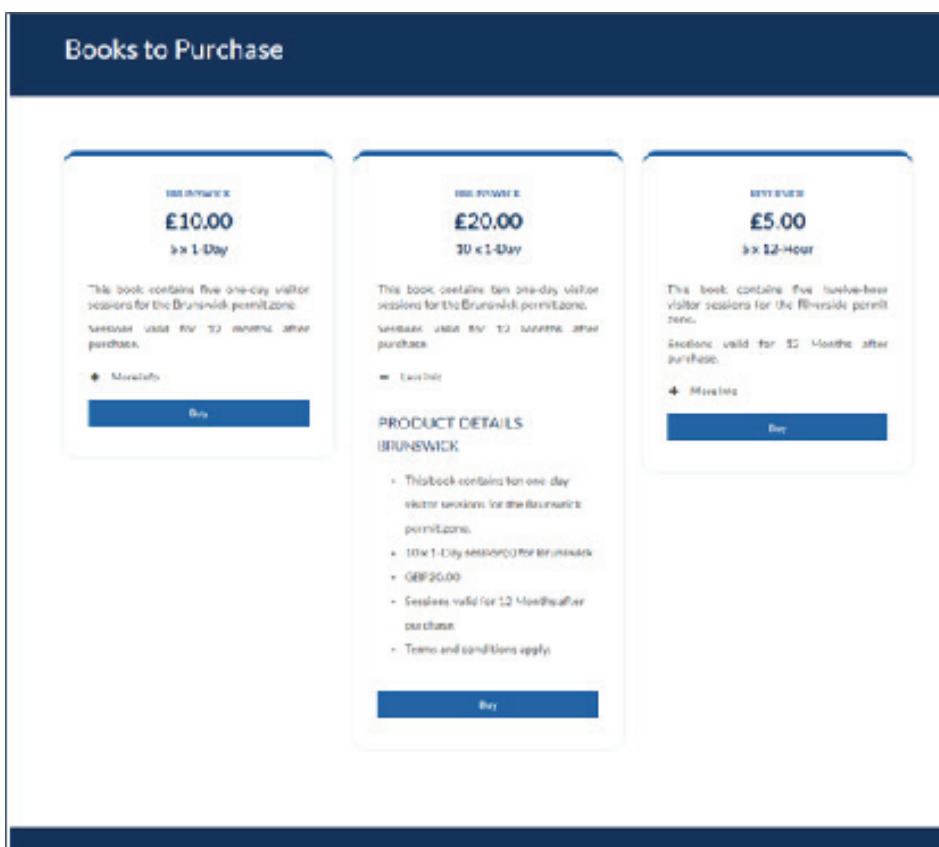

Figure B7-13: Purchasing Books of Visitor Sessions

Conduent has worked directly with our clients teams, who manage visitor vouchers to develop an integrated, easy to use solution for residents and visitors requiring short term parking in controlled parking areas.
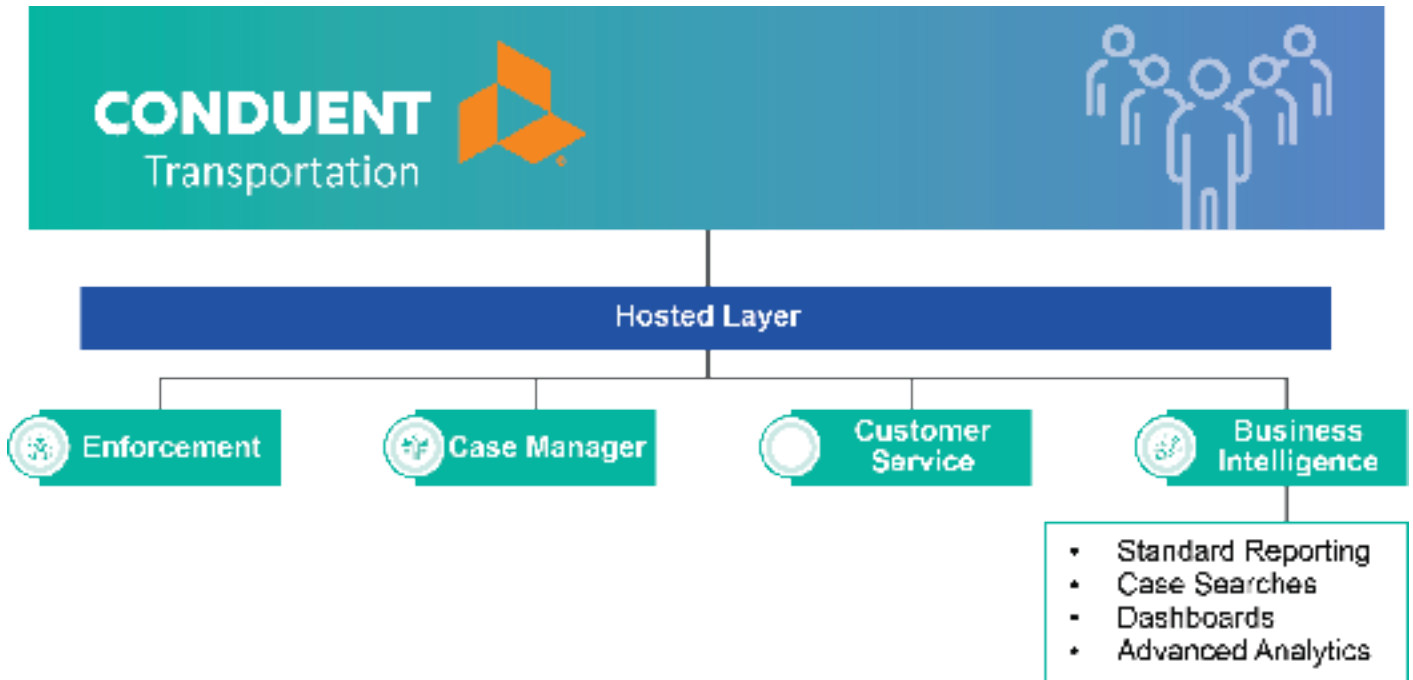
Figure B7-14: Conduent Business Intelligence Technology

Conduent understand the value of properly managed data. The Conduent reporting suite offers a variety of methods for reviewing data to meet each users' individual preferences. These methods include:

- An easy to use "Case Search" tool, with functionality to export data directly into Microsoft Excel.
- More than 250 crystal reporting templates.
- Conduent Analytics Platform, providing off-the-shelf data visualisations for each user to create their own personal dashboards as shown in Figure B7-15, below.
- Self-Service Reporting Module (SSRM), allowing users to create their own data visualisations.

Properly managed data has a significant impact on an operation. As a parking operator to some of the biggest cities in the world, Conduent use data to make informed decisions and assist stakeholders in business justifications.

Figure B7-15: Conduent Dashboards

The out of the box Conduent Dashboard solution consists of a suite of dashboards delivered through a SaaS platform to provide an overview of the parking operation.

Advanced Analytics

To support of local teams, the Conduent Data Analytics Team build dashboards to support on street supervisors and Notice Processing Team leaders manage the productivity of their teams. This is developed through our analytics platform with a customisable self-service module. With some examples shown in Figure B7-16, below:

Figure B7-16: Conduent Optional Dashboards

Our local teams are supported by our in-house data experts by removing timely data collection and aggrefation tasks, which are prone to user error, allowing the to focus on their teams welfare and performance.

How Technology and Data will Deliver Service Efficiencies

Conduent will work with RBK to explore opportunities to deliver an improved experience and to drive service efficiencies. Recent examples from other contracts include:

- Our multi-vendor cashless for parking session providers including the National Parking Platform, deployed in Oxfordshire County Council.
- Our integration with IPS for Pay and display session data presented on the handheld, removing the need for tickets in use with Southend-on-Sea City Council.
- Our multivendor CCTV solution deployed in the London Borough of Hammersmith & Fulham, which supports 4 CCTV review interfaces, through a single interface.
- Our Warrant Management integration in Croydon, can alert Enforcement Agents of vehicles of interest.

Over the life of the contract, Conduent's Enforcement Service experience will help to ensure operational savings and increased paid for parking revenues. Other examples include:

Data Led Enforcement: Conduent have recommended changes in the enforcement schedules to create positive change.

Conduent was awarded the contract to provide parking enforcement services by Oxfordshire County Council (OCC) in 2019, and by Reading Borough Council (RBC) in 2023.

In OCC, the previous incumbent delivered a traditional labour focused approach to meeting requirements, and the new specification was developed to invite service providers to demonstrate their capability to provide innovation.

The core philosophy of the Conduent proposition is to leverage cutting edge technology solutions to maximise the efficiency of operations, and increasing the effectiveness and efficiency of the solution was a key outcome required by OCC.

The outcomes in OCC demonstrate a proof of concept for the Conduent approach in a UK parking environment, demonstrated below in Figure B7-17:
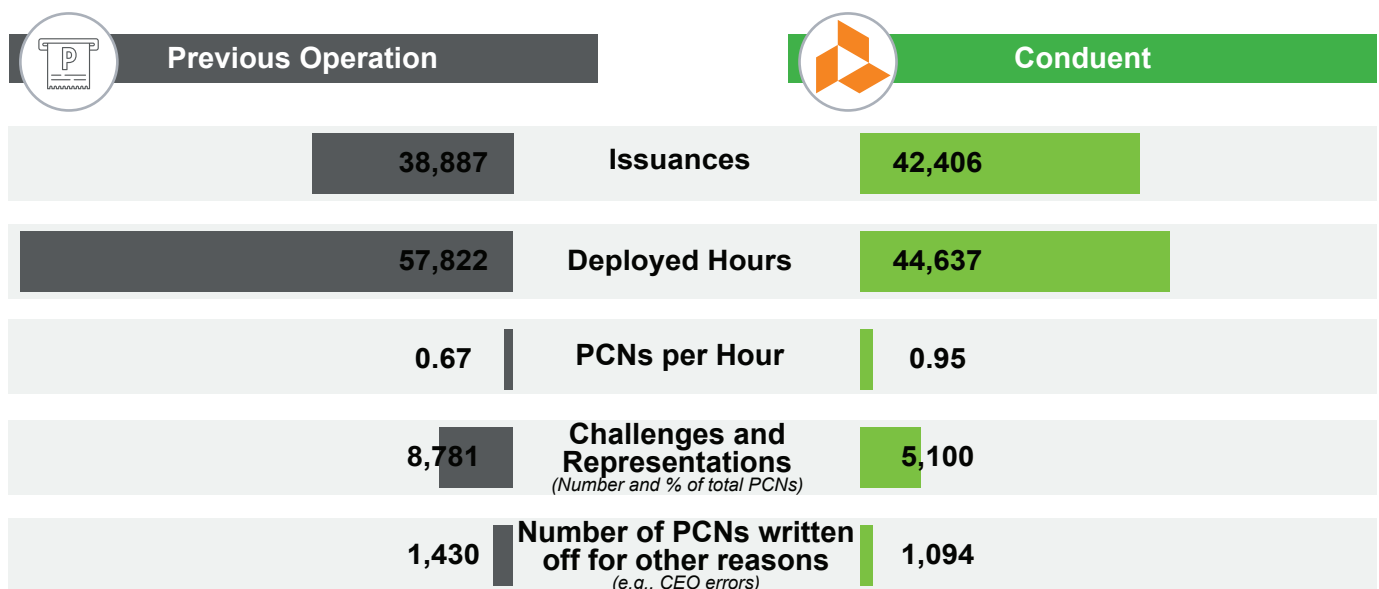
Previous Operation		Conduent
38,887	Issuances	42,406
57,822	Deployed Hours	44,637
0.67	PCNs per Hour	0.95
8,781	Challenges and Representations *(Number and % of total PCNs)*	5,100
1,430	Number of PCNs written off for other reasons *(e.g., CEO errors)*	1,094

Figure B7-17: Demonstrated UK Data Led Enforcement Outcomes

Through our contract in Oxfordshire County Council, Conduent is now able to present a comparison of a data led enforcement approach, against traditional enforcement practices.

Data Capture Capabilities:

To support the data analytics capability mentioned above, data collection is critical to supporting new business models.

Following a review of the market and not identifying a viable data capture solution, Conduent developed KerbSight.

KerbSight provides our enforcement operations with access to information about on and off street parking spaces, and how they are being used.

The electric bike is deployed with Mobile ANPR camera's that will travel around geofenced areas, collecting vehicle registration marks (VRMs) and sending this data to the management suite for review, looking up multiple applications to make operational decisions, as shown in Figure B7-18.
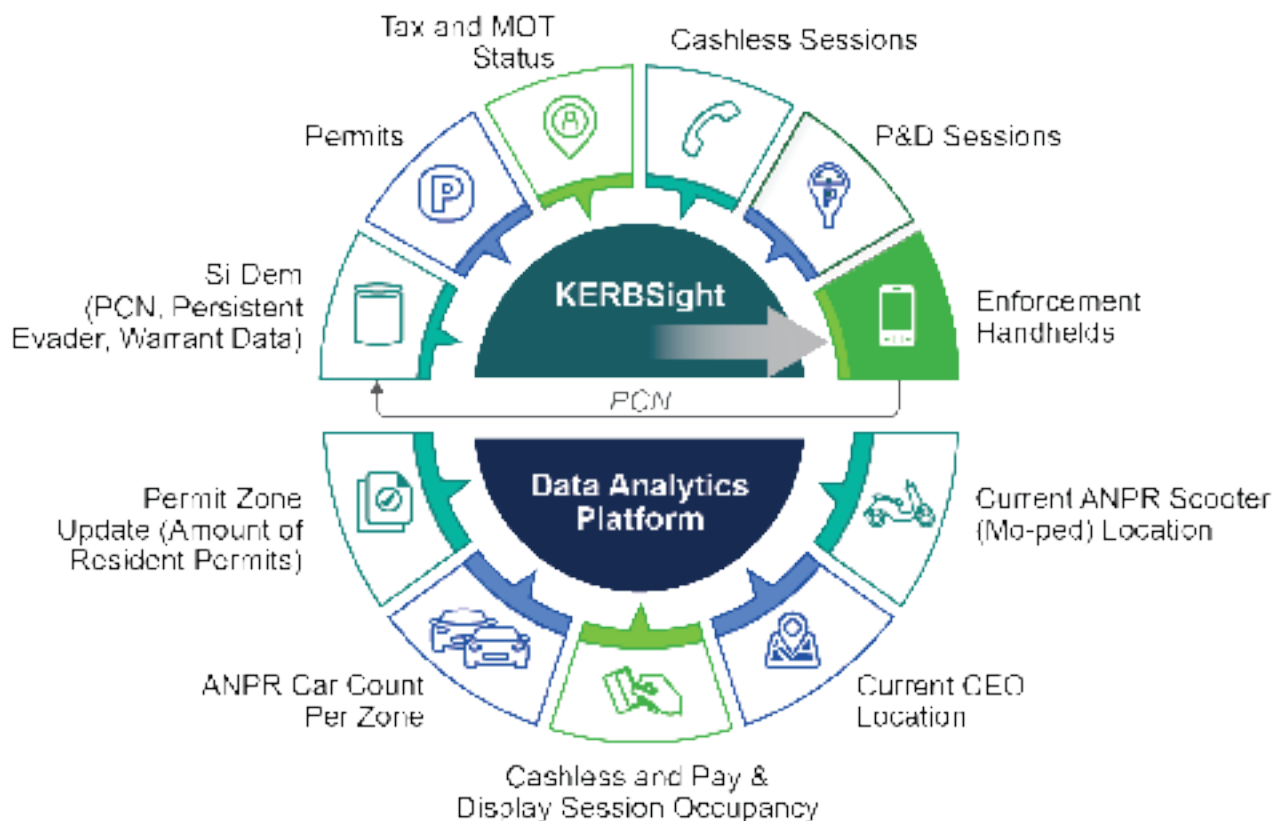

Figure B7-18: Introducing the KERBSight

Partnering our in-house development team with our CEOs in Oxfordshire enabled Conduent to create a truly unique mobile ANPR application to support the CEOs with the inefficiencies of managing enforcement issues, such as limited waiting bays within a resident parking zone.

Benefits include:

- Increased capture rates. The number of parked cars checked per hour using KERBSight will be between 750 and 2500 with an average of around 1250, which is 20 times more than that of an on-street CEO.

- Capture rates are fundamental to this technology and the business case for implementing KERBSight is positive due to the higher number of checks using the built-in scanning technology.

- This increases a car owners' risk of being caught for non-payment which, in turn, will increase revenue through compliant parking. These outcomes are supported by evidence which shows an increase in compliant parking payment revenues where this technology has been implemented.

- Data driven efficiencies. VRMs captured through KerbSight provide excellent data for collating parking statistics, which in turn can inform and shape local authority surveys, such as for local travel options, and parking policies.

- Conduent use sighting data to optimise enforcement by assisting with the deployment of compliance input devices such as the Conduent scooter and on street CEOs by highlighting hot spots with high levels of non-compliance, low rotation, or low payment rates.

Adopting Innovation through the Life of the Contract

To understand the RBK's current problems and future requirements, we continually undertake practical testing and gather user feedback from Council stakeholders and Conduent staff to refine our products and services. This allows us to deliver efficiency outcomes which drive financial benefits.

Conduent shall work with RBK individually and within groups of authorities who are trying to resolve similar problems. Working in partnership with our UK based development team and the business leaders for Conduent Labs, which support Conduent's global R&D Centres, we investigate innovative ways to resolve current issues. Resolutions will be discussed, and business plans created to test solution viability .

These Innovation Workgroups have led to:
- Solutions for video analytics systems that detect assets through available CCTV feeds.
- Support management of defective highways signs.
- Occupancy detection for limited waiting locations and overstays.
- Monitoring paid for parking sessions against occupancy data – reducing the need for Civil Enforcement Officers (CEOs) to monitor all locations, observe, and log vehicles.

Conduent currently deliver a similar technology and enforcement service to Oxfordshire County Council (OCC). Conduent provide both the on-street resource and technology to deliver the service.

Through a local Innovation Workgroup meeting with experienced enforcement supervisors, Conduent reviewed the design of our latest ANPR technology and analytics platform.

The Conduent OCC enforcement team was asked how the product could be used on their beats. The team explained how their resident zones, with limited wait restrictions, are currently being enforced and how we could adapt the product to offer an operational efficiency.

This feedback directly led to a major redesign of the user interface to suit on-street officers and provide functionality which otherwise would not have been included.

The introduction of this technology underpinned a 700% increase in vehicle capture rate compared to a street walking CEO during the same period.

Approach

Software development begins with innovation, seeking problems to solve. Innovation is an ongoing process which requires collaboration, as shown in Figure B7-19.

During product discovery, we research market needs, client requirements, and competitor landscapes to identify issues.

Analysis follows, where we scrutinise insights, outline requirements, confirm market demand, and justify investment aligning with our product strategy. With agreed investment, we prioritise features for our product roadmap.

The subsequent phase involves turning ideas into solutions by refining requirements and developing products, leading to market launch.

Crucially, customer feedback loops during market adoption validate our goals, emphasising continuous client engagement throughout the product lifecycle, detailed in our software development approach.

Figure B7-19: The Innovation Loop

Collaboration is critical at every stage of the process to ensure assumptions are qualified and the group remains focussed on the problem they set out to solve.

Conduent has continued this approach and have set out a new direction for the future of the product suite. The core of Conduent's proposition is built upon shared services to be used by all system components, whilst also fostering unified standards within the Conduent ecosystem.

This architecture simplifies any future integrations and drives innovation, where new services are developed without impacting existing functionality.

Conduent is developing consistent, testable interfaces for all Conduent applications with structured data access abstracting the underlying schema which enables repeatable, reusable services.

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