# Rugby Borough Council - A new digital waste service

## 2. Lead authority details

**2.1 Lead authority name**

Rugby Borough Council

**2.2.1 Full name**

Mike Connell

**2.2.2 Role**

Chief Officer - Digital and Communications

**2.2.3 Email**

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## 3. Project details

**3.1 Project title**

Exploring the use of an open source low code digital platform to develop user centred digital services for Waste Services

**3.2 Project description**

Existing Waste Management systems require considerable process analysis, design and implementation to effectively integrate into a user focussed front end which automates back office processes as well as provide user simplicity and reassurance when services are accessed.

By conducting best in class discovery and design and by implementing these in a live service on an open platform, we would not only improve the user experience of residents in our boroughs, we would also help other authorities to have a head-start in delivering high quality digital services to their users.

By incorporating multiple widely used Waste Management System integration connectors into a single platform, users will be able to access a range of standard waste services such as “look up your collection day”, green waste subscription payment & reminders, “assisted collections” request, email/SMS notification of service requests and missed bin enquiries simply and effectively.

**2.3 Describe how you will research the problem area and user needs arising from it?**

A number of councils have selected Digital Place as a single platform to replace several legacy products, mostly proprietary and with limited integration between them.

These legacy products had been used to digitise services by combining separate web CMS, e-forms and workflow or case management systems. This combination of products limited councils’ ability to design services that meet user needs effectively, reduce administrative burdens within the council, control software license costs and provide the flexibility to redesign and improve services as needs changed. These limitations, and the desire to work with a supplier that shared the vision and principles embodied in the Local Digital Declaration led to the choice of Digital Place as a replacement platform. Digital Place provides a full Java development platform based on Liferay, and Placecube’s developers have built a number of well-designed digital services in larger councils that were comfortable with a “full code” approach. Recognising that a much larger number of councils will never have the internal capacity to create full development teams, Placecube have been adding low-code features to Digital Place, giving councils more freedom and flexibility to build on and reuse modules within the platform. As we have adopted the platform, several councils have identified a number of priorities for further development of low-code features that will help us to accelerate our migrations away from proprietary forms and workflow products. These developments will provide a low-code open source platform that is accessible for the majority of councils in the UK, not just the large Unitaries and London Boroughs that can invest in development teams and run open source platforms for themselves. A major priority for several councils using Digital Place is to digitise the services related to Waste Services. A Discovery and Alpha phase of work has already been done in Rugby Borough Council, creating a number of waste services including “Subscribe to Garden Waste collections” and “Book a Bulky Waste Collection” with an integration connector for the Webaspx Waste Management system, and a bookings service that integrates with the Microsoft 365 calendar API. This Beta phase would undertake user research, design and development of a Waste Services platform which would integrate with a variety of Waste Management Systems using their standard APIs. We would create new integration connectors to the Waste Management systems in the other councils partnering on this bid (WebAspx,Echo,Bartec), and design the services so that they “do the hard work to make things simple” for the front end user as well as simplify, reassure and automate the back office stakeholders. A “Book a Bulky Waste Collection” workflow will also be integrated using standard Microsoft APIs to integrate into the Bookings service.

Using these integration connectors, a series of front end modules would be created which allowed simple access to the information required or processes requested by the user. Whether accessing the information anonymously or integrating directly into their user account information, modules would provide simple and effective initiation to resolution workflows using the most effective methods available to the integrations established.

From the front end modules, back end processes would provide auditable, reportable and reconcilable workflows which will be developed from the baseline Alpha research.

An example of this is a Green Waste Subscription workflow which will:

Inform the user of their current subscription status from the Waste Management System integration

Provide accurate pricing if a purchase is available.

Integrate into payment and/or Direct Debit services through a configurable connector (that could use GOV.UK Pay or other third party systems), and once payment is successful, notifies the user via a configurable SMS/Email integration (e.g. Gov Notify, FastSMS)

Activate a purchased subscription within the Waste Management System.

Load subscription data into a cloud hosted data repository

Provide subscription data via a secure API to inform third party or internal business services for physical sticker processing Another example of a simpler process would be a missed bin enquiry:

User registers a missed bin enquiry from the front end

Using either logged in address data (UPRN) or manual request, the query is passed to the Waste Management System integration

Waste Management System passes back the information to either reject, inform or begin a process to resolve the query from the information already available from the live in cab system

**3.4 Tell us about your users**

Local residents (or people about to become residents) are the main users of these services. Local authority staff will also greatly benefit from the service efficiencies.

During the alpha stage, feedback was obtained to show the service improvements and efficiencies available using limited integrated workflows at Rugby Borough Council using pro code development. The limitations of these improvements came from the time to live development of each single Waste Management System integration.

Kingston & Sutton have conducted extensive user research and discovery in Garden Waste recently and have an alpha level development of two of the common user journeys (joining garden waste subscription and renewing garden waste subscription) which can inform next steps.

We anticipate redesigning these services so that they “do the hard work to make things simple” by integrating with data the council already holds, using rules to automate the user journey in an intelligent way, and applying GOV.UK Design System components and patterns.

**3.5 Describe how your project team will have the skills and time available to deliver the project in an iterative/agile and user-centred way**

The existing team has extensive experience in integrating Waste Management Systems into other platforms, as well as developing using low code platforms for other services. A foundational service design has already been established from previous experience and the Alpha stage.

We have already procured the Digital Place SaaS platform, and have contracts in place with Placecube to provide services to research, design and develop on the platform.

The Rugby Borough Council team has recently successfully developed a Customer Contact Management system using the Digital Place SaaS platform using agile project methodologies. Incorporating developers, UX designers, Business Analysts, senior management, users and customer service team members to ensure the iterative development of the project was swift, effective and collaborative.

Lead partner Kingston & Sutton’s shared Digital Delivery team have undergone a digital transformation over the last 18 months and have a number of user researchers, testers, service designers, and front & full-stack developers in-house. We have been working in an agile fashion on projects for the last year and are gaining confidence & experience in doing so as we roll out this way of working to new teams and on new projects.

We would expect to commit significant resource, both in additional training for our team as well as involvement from team members based on this project, should it be funded but we would also expect to work with our suppliers to embed capacity in our team in order to scale-up our team as appropriate.

Dorset Council have recently implemented a replacement Content Management capability using

the Digital Place SaaS platform. The digital team and ICT operations have experience in content design, user research, service design, low code configuration and development of solutions in house. We have experience of moving services online, designing them end to end around user needs.

All parties involved have an awareness of the critical issue which could be resolved from the development of an open source low code digital platform to develop user centred digital services for Waste Services. Previous experience of Waste Management System suppliers shows a willingness to actively engage and progress full integration into systems; development of an out of the box platform which makes full use of their platform is extremely attractive.

**3.6 How will you set up the project to ensure a collaborative, iterative approach between all partners?**

Agile methodology in two week sprints using Jira for project tracking, daily stand ups through Microsoft Teams and appropriate channels within Teams to ensure effective cooperation.

Guiding principles derived from Alpha best practices.

Backlog determined

Sprint planning and scoring between the teams

Task breakout

2 week sprint with daily standups

Sprint review

Sprint retrospective

Framework for project governance established as Digital Delivery Managers as Steering Committee with Contractor cross council delivery manager forming appropriate Agile teams.

**3.7 Tell us about your delivery plan**

Status:

Basic MVP of “subscribe to garden waste collections” with payments is implemented in Rugby with Webaspx integration Dorset need to migrate their existing Waste forms and workflow, and integrate with Bartec

Kingston & Sutton need to migrate their existing Waste forms and integrate with Veolia/Echo Waste Management System Rugby Borough Council have form integrations for Waste Pick Up day, Assisted Waste Pull Out status and Microsoft Bookings for Bulky Waste available

Current integrations are full code at Rugby Borough Council

Dates:

October

Form cross-council team

Secure key roles - delivery manager and development partner, procuring additional services if required November

Review and establish shared understanding of technical capabilities of APIs across the Waste Management Systems in use by each partner and services to be accessed within related systems (e.g. Microsoft API).

Review of all partners existing user research, designs and current processes to establish how much is shared and where differences need to be supported

December

Design technical architecture of APIs and Digital Place connectors to specific waste management systems Design shared service pattern with configurable elements to enable differences between councils and build initial prototype Publish range of AS IS and TO BE processes with established integrations.

Prototype low code integration connectors and workflows for Waste Management Systems and Microsoft Bookings January

Begin public beta of front end digital services with integration into Waste Management Systems at all council project partners. A/B testing with analytics and user feedback

February-March

Subscribe to Garden Waste collections process available using low code integrations at all council project partners Monitor and iterate services based on initial user feedback

March

Performance data, efficiency improvement analytics, QA and user feedback available across Waste Management Systems and development journeys.

Wireframes and process maps to be available

Full documentation and code to be available on Bitbucket repo

The solution will be transparent from all starting points for National usage.

Efficiency savings to be clear to assist with Waste Management System procurement

Roadmap from a variety of starting points

Repeatable templates which can be applied across systems

Modular integration documentation for those taking a step by step approach

Low code components ready to go for Digital Place platform across a variety of Waste Management Systems

**3.8 Describe how you plan to build your proposed beta solution**

Other technologies:

Digital Place is hosted on AWS, and VPNs will be established between AWS and council hosting using appropriate means for each partner’s hosting, e.g. Azure gateway in Rugby

Three Waste Management systems and their APIs will be in use - Webaspx, Bartec and Echo

Bookings will use the Microsoft 365 calendar API

Data management:

Resident personal data and passwords for accounts will be stored in Digital Place if services require an account. Data about financial transactions will be accessed via APIs and displayed to residents in Digital Place.

Placecube are ISO27001 certified and apply OWASP principles of secure development during coding. Digital Place protects all data in transit with the TLS 1.2 protocol which utilises strong ciphers capable of up to 256 bits. All stored data, including personal information, is protected by 256-bit AES encryption at rest

Performance measurement

Process and efficiency monitoring will be undertaken at each stage of release, using process mapping software to attribute cost to each process change. A/B testing analytics and anonymous, transparent user feedback will be available graphically during each process change to validate impact.

Operational support

Placecube provides operational support for the Digital Place SaaS platform as part of the subscription, including all cubes developed with them and adopted into the core system.

Each council's digital and IT team will be developing the skills to configure and amend the low code digital services themselves, learning as part of the joint project team, so that changes to rules, process flow, prices or eligibility can be maintained without the need for supplier input.

**3.9 Explain how your beta solution will consider the wider context of operating a live service**

This beta will lead directly to live services on our instances of Digital Place, so we will be designing with this in mind. The service we build on Digital Place will use a number of methods to comply with GDPR:

Encryption: Digital Place protects all data in transit with the TLS 1.2 protocol which utilises strong ciphers capable of up to 256 bits. All stored data, including personal information, is protected by 256-bit AES encryption at rest.

Administrative Rights: Digital Place provides a rich permissions model and strong access controls which we will use to amend, remove, and export user’s profile information to maintain security of access.

Auditability: User activity will be time-stamped and logged, allowing administrators to quickly report against activity should an audit be required.

System Access Control: the platform is hosted in AWS and therefore benefits from its industry-leading security standards. Security Audits: Penetration tests and vulnerability scans are conducted on a regular basis before every major release of Digital Place and at least once a year.

Commercial and ownership models – developing modules on Digital Place supports two main options for councils: Open Source code, self-host Liferay Community Edition and run/maintain using in-house team

Procure the Digital Place SaaS subscription and gain access to a fully hosted and managed instance – with the same open source licensing to prevent lock-in

IP and legal issues

IP for developments on Digital Place will be jointly assigned between the councils involved and Placecube, and all code and related documentation will be published under an OSI approved license to ensure open access and reuse. Communities of practice & networks

We are developing a community of Placecube customers, sharing experience as we use the platform, and we are active members of the LocalGov Digital network.

**3.10 How will you share openly the learnings and outputs from the project as the work develops, both with the sector and MHCLG?**

Tools and networks

User research will be published on research.localgov.digital

Placecube host the Knowledge Hub and will create a publicly accessible microsite for us to publish blog posts and reports from the project which are available to the whole public sector. (similar to the LGA Transformation & Innovation Exchange microsite https://khub.net/web/tiex)

Making outputs available and reusable

All products, including process diagrams, wireframes, UX designs, technical architecture documentation will be published openly on the project microsite.

Placecube will push the new Waste Services cubes into all customers instances of Digital Place as part of their subscription, and they will be provided to all new customers as part of the implementation - no additional costs will be charged. Placecube will publish the source code under the Affero GPL OSI approved license in their public repo https://bitbucket.org/pfiks/

**3.11 Describe the estimated return on investment of the beta service / product, both at a local level and to the sector, and how you plan to validate these estimates during the beta**

The project will provide service improvements and efficiencies as well as an entry point for users who currently have the established need for a Waste Management System, but not the capacity to fully utilise and establish the benefits of such a system.

Majority of partners currently have no system integration despite having a Waste Management system, providing a unique opportunity for establishing the effect of modelling such a change which can be extrapolated nationally to provide quantifiable ROI figures for potential users who are currently looking at either purchase of a Waste Management System or existing Waste Management System users who cannot realise efficiencies.

Northumberland County Council’s user interviews report can shape the processes and development initially.

Quantifiable channel shift figures will show efficiency savings for each provided process during the beta. Previous testing has shown a channel shift of over 5.6% on Garden Waste Subscription Services, equating to an efficiency saving of approx £3600 per annum on this single service for Rugby Borough Council just in customer service costs.

Reduction in Waste Service enquiries is difficult to attribute to a single process change or digitalisation, but a reasonable expectation of efficiency saving on the evidence available in Rugby Borough Council would be an 8% reduction in costly telephone enquiries and a time reduction for customer service agents of 20% during a telephone enquiry. This equates to an efficiency saving in the region of £15000 for Rugby Borough council.

Obtained from the Alpha stage, a baseline cost and user feedback has been established for comparison to the fully integrated Beta stage. Efficiency and usability can be established within the Rugby Borough Council environment using A/B testing already incorporated into the SaaS platform. Rollout to partnering authorities will further scale the beta, establishing efficiencies and usability improvements from a non-integrated starting position and providing evidence for the technical, operational and commercial considerations that support scaling/re-use. A transitional roadmap will be created to map available Waste Management services with Waste Management Systems for transparency.

With a successful beta, these efficiencies could be realised nationally with minimal development time using the low code platform being developed. The project would allow national authorities to attribute quantifiable savings to Waste Management System procurement.

During production of the performance and efficiency improvement analytics, expected investment and ROI will be attributed to each process integrated from the evidence gathered from partners and lead authority during the beta. Each enquiry or workflow will be baselined from where it is to where it will be and will include user feedback (front and back office) to quantify service improvements.

**3.11.1 Upload supporting documents (optional)**

[PaymentMethodChannelShift.pdf](https://www.localdigital.gov.uk/index.php?gf-download=2021%2F09%2FPaymentMethodChannelShift.pdf&form-id=40&field-id=162&hash=368edfc0c1f6f38eb79de88c67d20a73c6768d0ba4c125b670e31f15caae13c7)

**3.12 How much funding are you applying for to complete the project?**

£350000

**3.13 How will the total project budget be used?**

| **Resource (e.g. staff time, supplier, contractor, etc.)**  | **Time / Quantity** | **Total cost / Value** | **Who will pay (e.g. Local Digital funding or a particular project partner)**  |
| --- | --- | --- | --- |
| Staff time from Rugby Borough Council (internal projectmanagement, business and data analysis, subject matterexpertise) | 200 days | 50000 | Local Digital Fund |
| Staff time from Dorset Council (internal projectmanagement, business and data analysis, subject matterexpertise) | 200 days | 50000 | Local Digital Fund |
| Staff time from Kingston & Sutton Councils (internal projectmanagement, business and data analysis, subject matterexpertise) | 200 days | 50000 | Local Digital Fund |
| Contractor - cross-council delivery manager | 100 days | 50000 | Local Digital Fund |
| Supplier - user research, design, development services | 200 days | 150000 | Local Digital Fund |

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## 4. Project partner details

**4.1 List all the project partners working on the project**

* Dorset Council
* Royal Borough of Kingston
* London Borough of Sutton
* Northumberland County Council