

User Research from Private Beta

Rail Delivery Group

Summary of user research approach

Between Alpha and Private Beta

- In-depth interviews with potential users
- Focus group sessions demonstrating early concepts
- Usability testing of clickable prototypes
- Comparison of alternative concepts and solutions
- Updating user needs, informing design of key pages prior to MVP delivery

Key findings

- Differences between data sources and data products not clear
- Need for flexibility of licencing models

During Private Beta

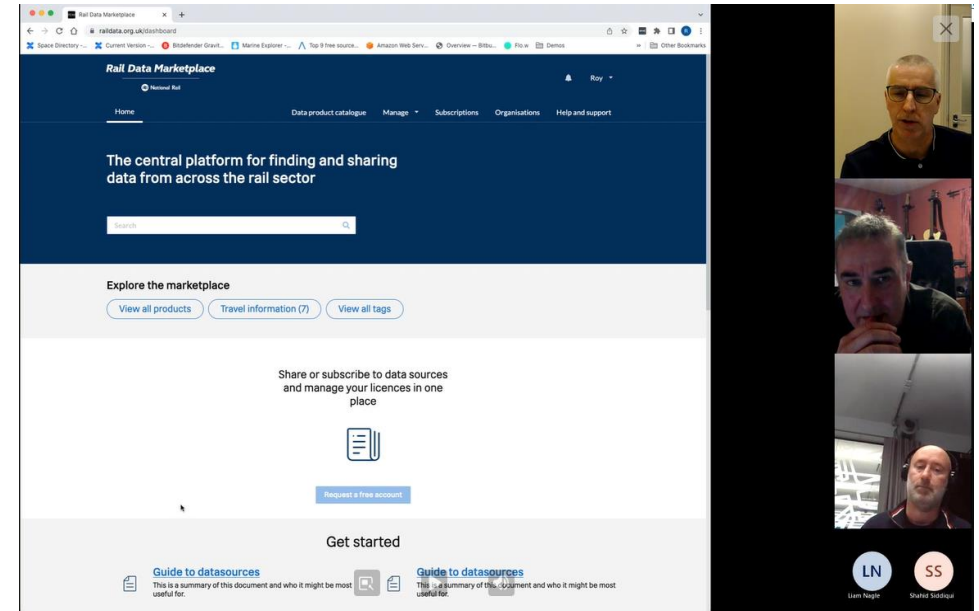
- Semi-structured in-depth interviews with users onboarding to the Live system
- Observed users completing key tasks
- Additional feedback gathered based on usage throughout Beta phase
- Additional sessions to support publishing
- All issues identified triaged, prioritised and designed solutions put on the backlog

Key findings

- Differences between user types when it comes to registering
- Clarity over needs of publishers when monitoring their data products

Private Beta User Research: Approach

- Qualitative testing with users on the live service
- Participants asked to register, using the following tasks
 - Register on the website
 - Subscribe to a data product (consumers)
 - Publish a data product (publishers)
- Additional feedback through regular check-ins
 - Emailed feedback
 - Follow up in-depth sessions
- Aims
 - Assess how well the system meets user's needs
 - Identify any barriers that may influence take-up
 - Discover any additional user needs



User research update: Summary of findings

- 99 x identified
 - 26 x high
 - 35 x medium
 - 38 x low
- All issues are tracked with a description, potential impact, theme and severity level

Excel Issues list - Saved										
Search (Alt + Q)										
File Home Insert Draw Page Layout Formulas Data Review View Help										
Calibri 11										
C1										
X f Task										
A B C D E F G H I J K										
Issue number Page(s) Task URL Theme Issue Full description Potential impact Recommendation Severity Priority										
1	1	Register	Register as a consumer	https://9a3a7w.axshare.com	Unnecessary fields	"Legal entity" not needed	"Legal entity" seems to replicate Companies house number?	Makes registering longer. People may enter the wrong information in the legal entity box	Reconsider what the point of "Legal entity" is - and whether it should be required for all company types	Low
2	2	Register	Register as a consumer	https://9a3a7w.axshare.com	Unclear mission	Not clear if individuals can register	There is no description to explain the registration process, who it is for etc. When first encountering the registration form there appears to be no option for individuals who do not consider themselves a corporation.	Individuals likely to be put off from registering	Ensure that there is clear explanation explaining the registration process, including who it is for. Have a drop down option for individuals	High
3	3	Register	Register as a consumer	https://9a3a7w.axshare.com	Unnecessary fields	Too many fields for an individual to complete	When completing registration, there are a lot of fields - many of which do not seem relevant for an individual	Individuals likely to be put off from registering	Consider a reduced set of fields suitable for an initial registration phase that would allow a user to look around and explore but not yet have full permission to do everything.	Medium
4	4	Register	Register as a publisher	https://9a3a7w.axshare.com	Unnecessary fields	Too many sets of terms and conditions required	People have to agree to 5 sets of terms and conditions to register as a publisher. This is offputting for people who may not be ready to publish yet. One participant commented that these would require the approval of the MD, not just themselves so they would not be able to register.	Companies will be put off from registering	Consider a reduced set of fields suitable for an early registration phase that would allow a user a reduced set of functionality. Consider if all T&Cs are required at this point	Medium
5	5	General	Register as a publisher	https://9a3a7w.axshare.com	Unclear mission	Not clear how RDG add value	Companies are already licensing their data	Companies will be put off from registering	Consider how to "sell" the benefits of being on the marketplace. These will include (e.g.): <ul style="list-style-type: none">- Access- access to wider audience- Saving effort	High

All issues are being tracked with a description, theme, severity and recommendation for improvement

How user research is informing operations

User research is integral to informing the operations team and will continue to be so going forward

- Issues identified from user research are triaged with the service team to identify potential solutions
- All user research is conducted in the open, with all team members invited to observe
- Triage sessions and UX meetings include team members representing all touchpoints with users
- The end to end service has been tested from initial impressions of the RDM through to monitoring of data subscriptions
- A list of known questions and issues is maintained by operations staff in order to be able to answer queries effectively and efficiently

Users of Rail Data Marketplace in Private Beta

20 organisations have taken part in Private Beta, most of which have multiple users. During Private Beta we have gathered feedback directly with all users of the system through multiple interactions.

Participants can be grouped according to the following demographics.

Organisations
<ul style="list-style-type: none">• Principles (e.g. National Rail)• Train Operating Companies• Retailers• Suppliers

Different organisations want to use data for different purposes, but the way they use the service is broadly similar

Roles
<ul style="list-style-type: none">• Data specialists• Developers• Commercial & Marketing• Strategy & planning

Expertise with data and API's affects the areas of the system people are most interested in

Functions
<ul style="list-style-type: none">• Data publisher• Data consumer

Those who are publishing data are keen to be promoted , whereas those who only consume may desire less prominence

Motivations of people using the service

The different user groups have different motivations for using the service

- **Rail companies** want to expose the data in order to drive more rail travel
- **Data consumers** want access to up to date data across a wide range of rail information
- **Data publishers** want to get their data seen and used by more people

We address the space of 'make it easier to access and share real time urban data'. We help organisations to unlock real time data from diverse systems they have and harmonise it and make it accessible. We are looking for partnerships, also keen to share experiences.

What we are interested in is to having access to more accurate data when it comes to public transport, to have a better idea of passenger load, energy, fuel being used so we can give even more accurate figures to individuals and organisations

Overall perspectives

- All users have been excited about using RDM
- Platform generally thought to be clean, professional and appealing
- People are able to navigate around the RDM easily
- Specifications pages seem open and transparent
- Subscribing to data product is easy and intuitive
- People are excited to see more partners coming aboard

*Excellent news! It's
been a long time
coming*

*In terms of the
platform, it's very
straightforward and
simple to me.*

*It was all pretty self-
explanatory, I liked that
we could set up the
business and multiple
admins*

High level user needs

For the system to be a success, there is a need for users to be able and willing to complete the following tasks

1. Register and access the system
2. Browse and explore the data marketplace
3. Subscribe to data products and get data
4. Publish a data product and make sure it is accessible
5. Monitor the usage of each data product

User need 1: Onboarding

Challenge

All users will need to register before being able to access or publish any products.

Therefore, the registration process needs to be attractive, robust and straightforward for those users for whom it is appropriate to.

Rail Data Marketplace

National Rail

Login

Request an account

You must complete all the fields unless they're optional.

To access Rail Data Marketplace, [check if your organisation is registered](#). If your organisation has an account, you can ask to be added as a user.

If your organisation is not registered, use this form to request an account. We'll check your registration details and email you within 3 working days.

If you are not part of a registered organisation, you can request an account as an individual.

Account details

We'll use this information to create a public profile page for your account.

Type of organisation

Select the option that describes you or your organisation. This will show on your public profile page.

Select an option

Account name

Enter the name of the registered company, charity or other legal entity you want to request an account for. This name will show on the account's profile page. If you are not part of an organisation, enter a name to display publicly on your profile.

Overall needs

- Awareness and understanding of RDM
- Motivation to onboard
- Confidence registration does not commit the user to anything

Specific needs (Strategic / managers)

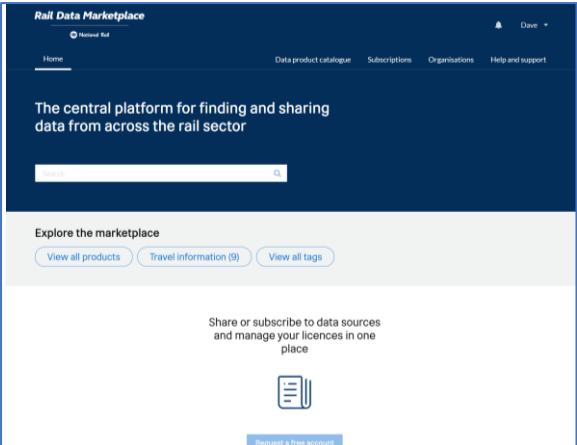
- Confidence that data products will be secure
- Control over access rights
- Knowledge of who else is using RDM products
- Ability to promote organisation

Specific needs (Developers / analysts)

- Be able to register on behalf of my organisation
- Ability to get appropriate people to review T&Cs

Task 1: Onboarding

Home page



- ✓ T&Cs available prior to registering
- ✓ Explanation about what RDM is and who it is suitable for

Request an account

The screenshot shows the 'Request an account' form. It starts with a heading 'Request an account' and a note: 'You must complete all the fields unless they're optional.' Below this, there's a paragraph explaining that users can request an account if their organization is not registered. The form includes a 'Type of organisation' dropdown menu with the option 'Select an option'. At the bottom, there's a section for 'Account name' with a text input field and a note: 'Enter the name of the registered company, charity or other legal entity you want to request an account for. This name will show on the account's profile page. If you are not part of an organisation, enter a name to display publicly on your profile.'

- ✓ Simple to complete
- ✓ All fields can be seen upfront
- ✓ Single page approach

Terms and Conditions

The screenshot shows the 'RDM Platform Agreement (Data Consumer)'. It starts with a heading '1. Definitions' and a note: 'In this Agreement, the following meanings shall apply:'. Below this is a table with two columns: 'Word or phrase' and 'Meaning'.

Word or phrase	Meaning
'Account'	means the facility provided by RDG allowing the Data Consumer to access the Rail Data Marketplace;
'ADR Notice'	has the meaning set out in Clause 22.1;
'Agreement'	means this agreement, together with the Schedules and any policies incorporated by reference;
'Business Day'	a day, other than a Saturday, Sunday or public holiday in England, when banks in London are open for business;
'Business Hours'	the period from 9.00 am to 5.00 pm on any Business Day;
'Catalogue'	the description of Content displayed on the Rail Data Marketplace;
'Confidential Information'	has the meaning given to it at Clause 11;
'Content'	the content owned by the Data Publisher and made available for sharing under licence through the Rail Data Marketplace;
'Data Consumer'	the owner of the Account;
'Data Protection Legislation'	all applicable data protection and privacy legislation in force from time to time in the UK including the UK GDPR, the Data Protection Act 2018 (DPA 2018) (and regulations made thereunder); and the Privacy and Electronic Communications Regulations 2003 (SI 2003 No. 2426) as amended; and all other legislation and regulatory requirements in force from time to time which apply to a party relating to the use of Personal Data (including, without limitation, the privacy of electronic communications); and the guidance and codes of practice issued by the Information Commissioner or other relevant data protection or supervisory authority and applicable to a party.

- ✓ Terms and conditions are comprehensive
- ✓ Direct URLs support sharing of T&Cs

Request submitted

The screenshot shows the 'Account request submitted' confirmation page. It displays the account details for 'Dave Grayson_01'. The details include: Request ID (1446), Website (https://fluent-interaction.co...), Organisation email address (dave@fluent-interaction.co.uk), Address line 2 (blah), Town or city (blah), Organisation phone number (07969116314), Country (United Kingdom), Postcode or ZIP code (sg12 8ty), Profile description (TEST ACCOUNT - PLEASE DELETE), Organisation administrator(s) (Name: dave grayson, Username: dave_grayson, Status: Pending), and Email address (dave@fluent-interaction.co.uk). The workflow is shown as 'Pending'.

- ✓ Submission process is fast
- ✓ Clear that there is an approval stage
- ✓ Email received quickly

User need 2: Finding data of interest

Challenge

In order to make the service useful, people will need to be able to find data products of interest to them.

Some users will know exactly what they are looking for, others will be seeking inspiration, so the service needs to support users whether they are aware of them prior to looking or not.

Overall needs

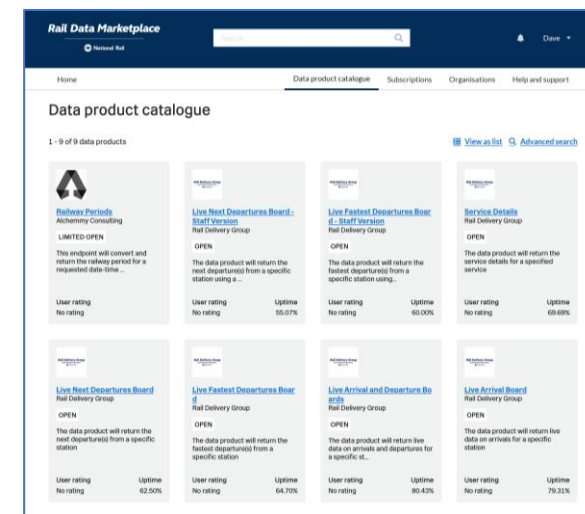
- Search for a specific product or term
- Browse by theme or characteristic
- Find unknown data products that may be of interest
- Know who is providing the data

Specific needs (Strategic / managers)

- Find data product by specific organisations
- Understand the licencing restrictions of data products

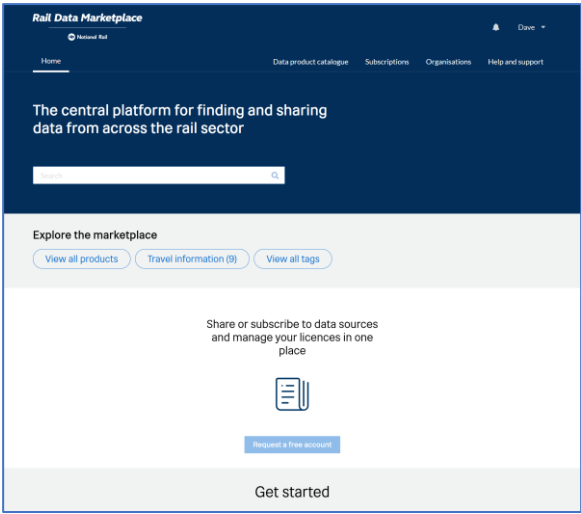
Specific needs (Developers / analysts)

- Get detailed understanding of what data a product contains
- Understand the likely quality of the data



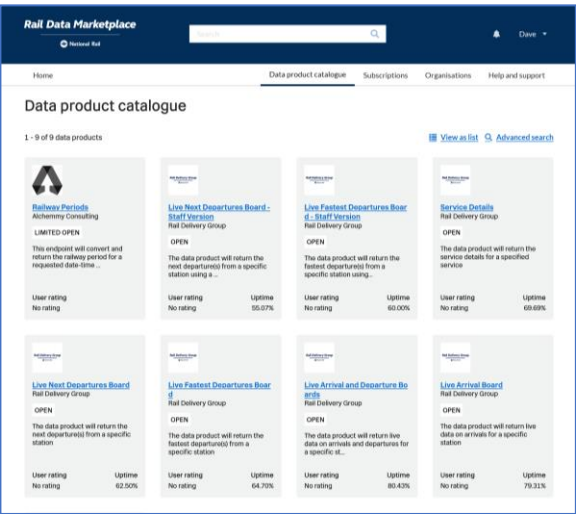
Task 2: Finding data of interest

Home page



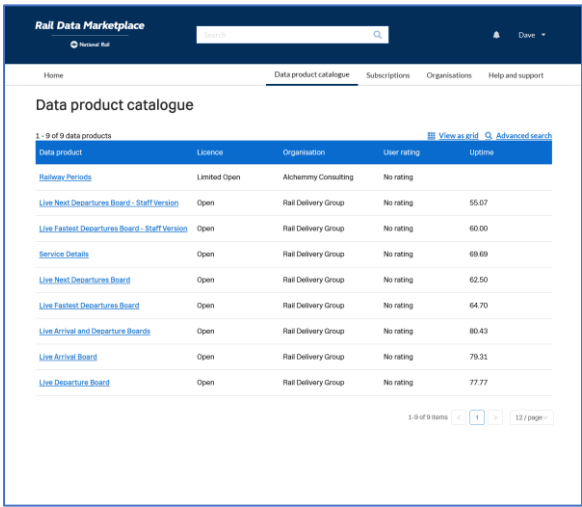
- ✓ Simple to start exploring
- ✓ Intuitive to look around

Browse



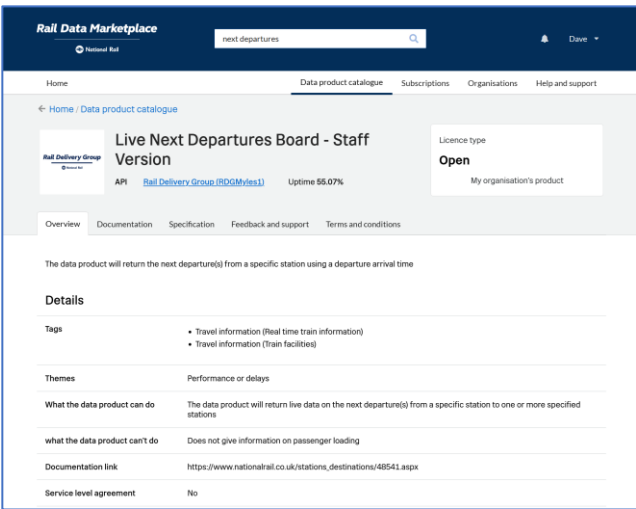
- ✓ Product catalogue easy to browse
- ✓ Prominent logos are attention grabbing
- ✓ Search easy to access

View catalogue as list



- ✓ List view easier for sorting to find something specific

Searching the catalogue



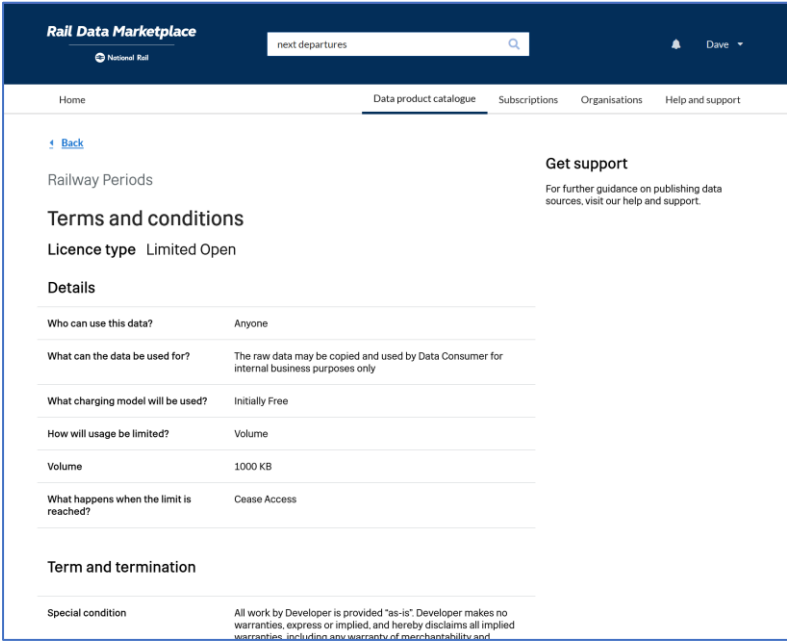
- ✓ Data product overview easy to browse

User need 3: Consuming data products

Challenge

The fundamental purpose of RDM is to facilitate appropriate access to a range of data products

The challenge for the service is to ensure that people can subscribe to data products in a way that is easy and robust.



Overall needs

- Simple subscription process

Specific needs (Strategic / managers)

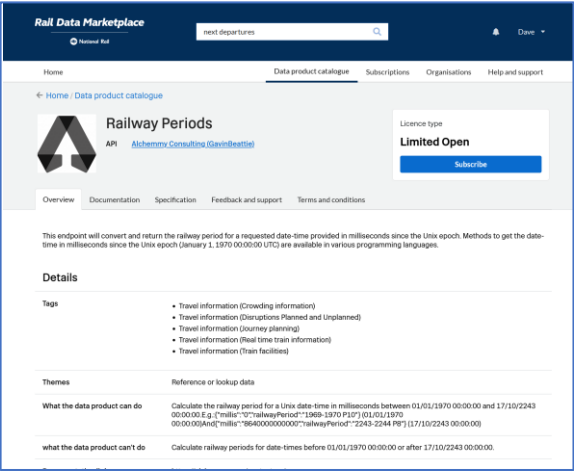
- Understand the licence restrictions
- Understand the costs and subscription details

Specific needs (Developers / analysts)

- Understand how to interrogate the data
- Test how the data product works

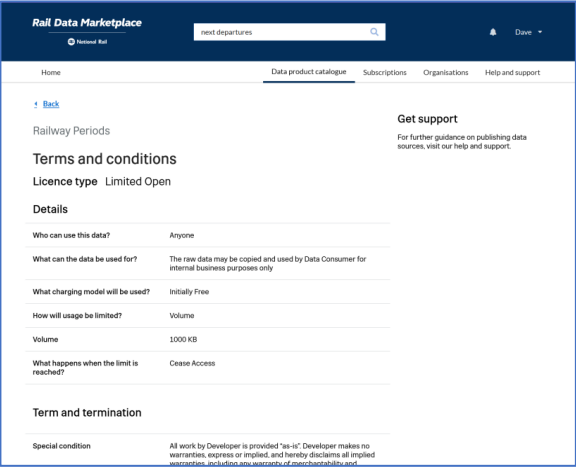
Task 3: Consuming data products

View data product



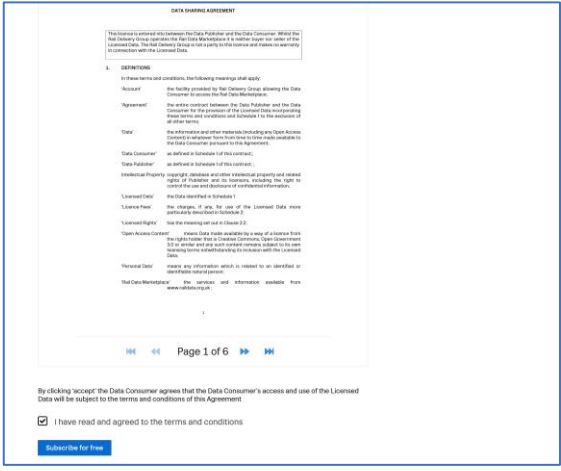
- ✓ Easy to get an overview of the product
- ❖ Need to encourage appropriate documentation

Subscribe



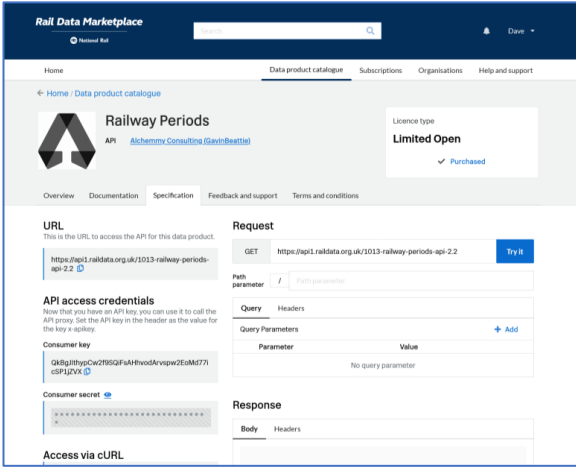
- ✓ Need to subscribe to test the service
- ✓ Immediate access to products set up without need for approval

Agree licence



- ✓ Standard licence is appealing for many
- ✓ No concerns over licence details so far

View specification



- ✓ Ability to test
- ✓ Immediate subscription to free

User need 4: Publishing data products

Challenge

The success of RDM is dependent on encouraging a range of data products to be made available by users (publishers).

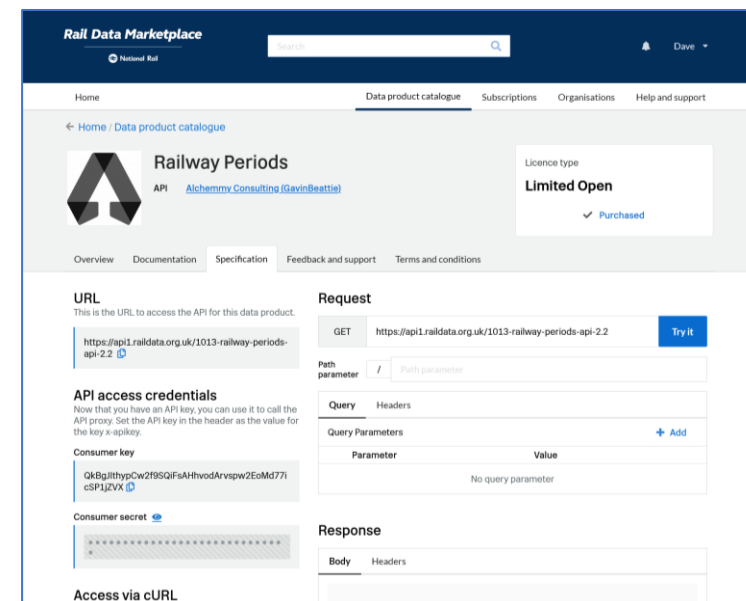
Publishing an API feed is a challenging process, which requires some technical expertise. The challenge is to provide a process that is simple enough to follow and supports the flexibility to meet many desired licencing models.

Overall needs

- Step by step guidance
- Intuitive input forms
- Flexibility to support a wide range of data products

Specific needs (Strategic / managers)

- Flexibility in the licence requirements
- Ability to use either a standard or own licence



Specific needs (Developers / analysts)

- Test the data product works
- Ability to test alternative configurations of a data source

Task 4: Publishing a data product

Create a data source

The screenshot shows the 'Add an API' form in the Rail data marketplace. The form is divided into several sections: 'API information' (Upload your API and add details), 'Quality' (Calculate data quality score), and 'Review and submit' (Review all the details). Each section has a list of fields with 'Incomplete' status indicators. The 'API information' section includes 'Edit API details', 'Metadata', and 'Code snippets'. The 'Quality' section includes 'Known quality of data'. The 'Review and submit' section includes 'Review all the details'.

Submit a data source

The screenshot shows the 'Data source submitted' confirmation page. A large green box with the text 'Data source submitted' is the central focus. Below it, there is a link to 'View your data sources' and a note that the data source will appear in the 'Active' list. To the right, there is a 'Get support' link for further guidance on publishing data sources.

Create a data product

The screenshot shows the 'Publish a product' form in the Rail data marketplace. The form is divided into several sections: 'Product Information' (Add product details), 'Service Level Agreement' (Provide SLA details), and 'Review and submit' (Review all the details). Each section has a list of fields with 'Incomplete' status indicators. The 'Product Information' section includes 'Enter product details', 'Data source', 'Tags and themes', and 'Documentation and schedule publishing'. The 'Service Level Agreement' section includes 'Service Level Agreement'.

Choose licence parameters

The screenshot shows the 'Choose licence parameters' form in the Rail data marketplace. The form is divided into several sections: 'What can the data be used for?' (Academia and research only), 'What charging model will be used?' (Free), 'Will there be a fair usage limit?' (Yes), 'Licence recommendation' (Open), and 'Would you like to use the recommended licence?' (Yes). Each section has a 'Save as draft' button and a 'Submit' button.

- ✓ Check lists are clear
- ✓ Save as draft takes pressure off completing in one visit

- ✓ Data source suitable for developers to input
- ❖ Need to be able to check and edit source after submission

- ✓ Data product fields are all self-explanatory
- ✓ Good flexibility of licence options

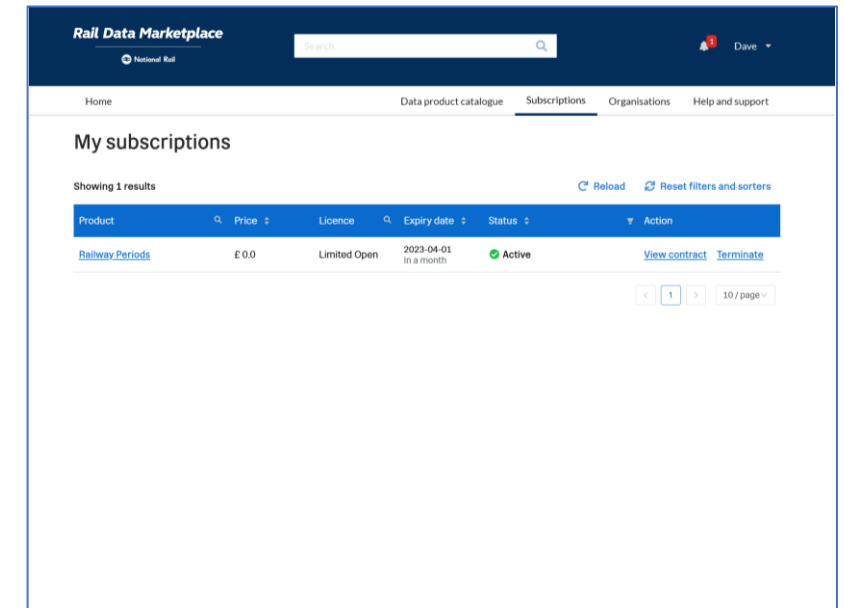
- ✓ Standard licence well received
- ✓ Ability to choose how to accept subscriptions

User need 5: Managing data products

Challenge

Both publishers and consumers need to be able to monitor the status of their accounts. Consumers need to know when their access will run out or what and when they will be charged.

Publishers need to be able to monitor who is subscribing to their data products so they can manage these relationships.



Overall needs

- See the status of all subscriptions
- Manage subscriptions
- Manage subscribers

Specific needs (Strategic / managers)

- Know who subscribers are

Specific needs (Developers / analysts)

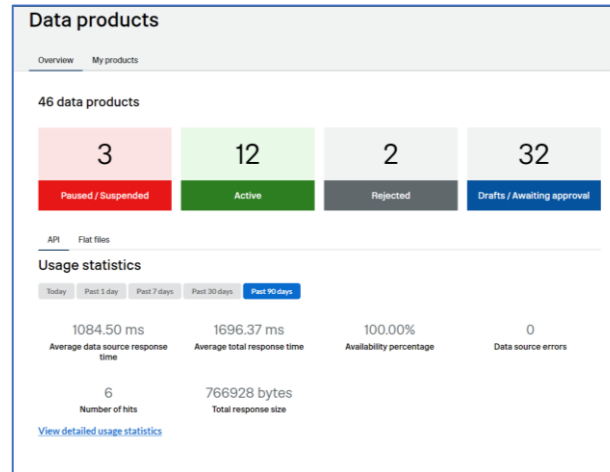
- Details of user keys (so I can troubleshoot user issues)

Task 5: Monitoring

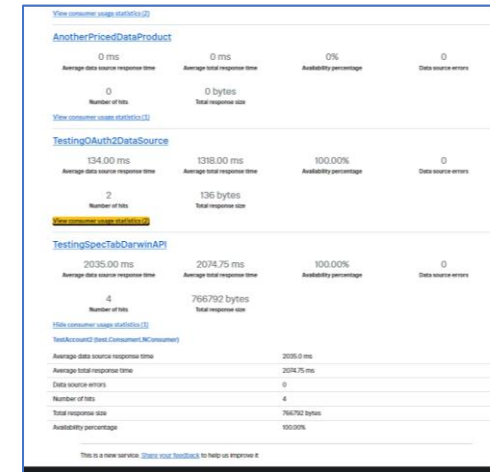
Manage subscriptions



Manage data products



View product usage



- ✓ Easy to navigate to subscriptions
- ✓ Easy to see all subscriptions
- ❖ Not clear what happens at expiry date

- ✓ Clear view of status across all data products
- ✓ Summary dashboard gives main highlights

- ✓ Ability to drill down to customer information

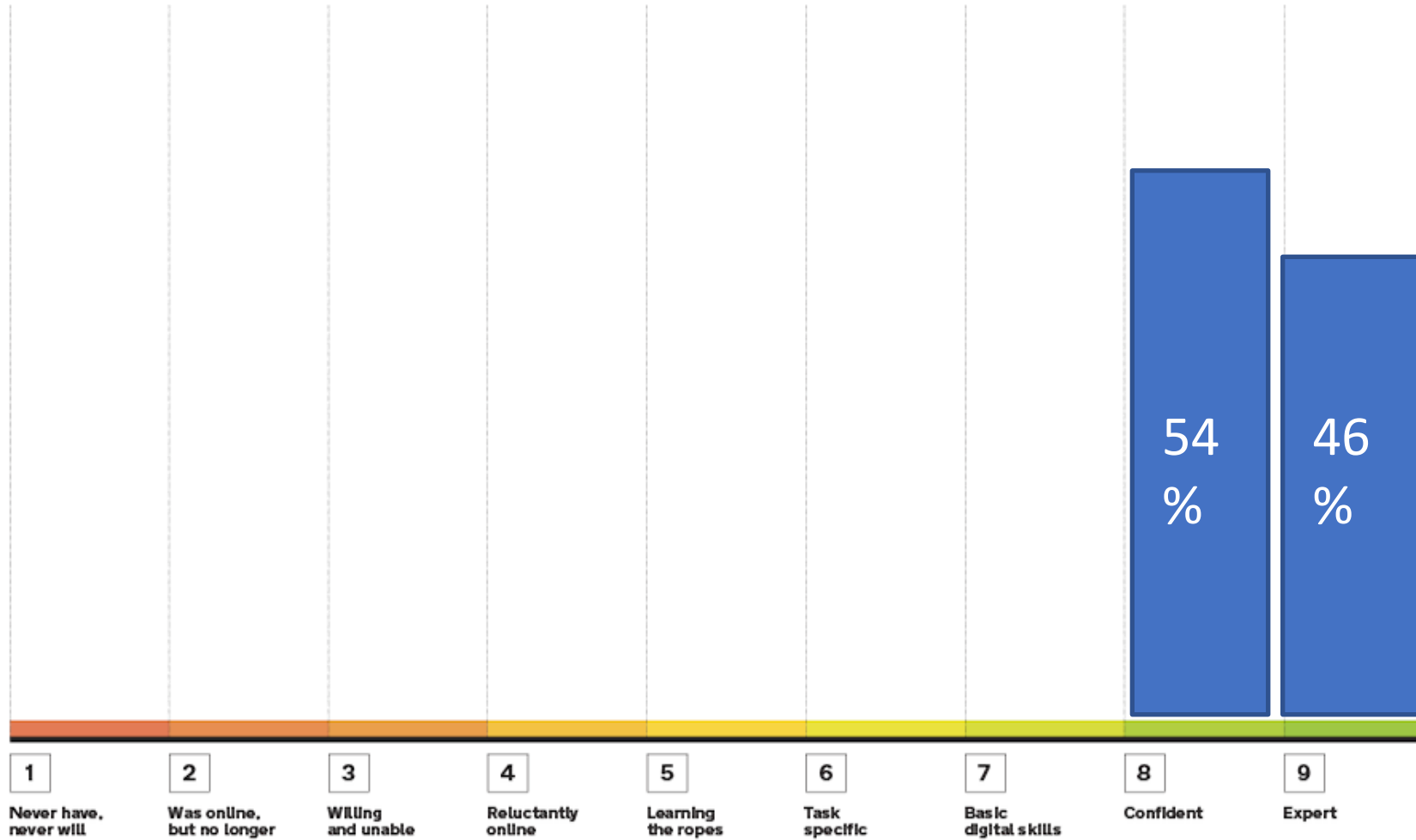
Making sure everyone can use the service

How we are making sure that everyone can use the service

- Accessibility audit by a specialist agency (Shaw Trust) to ensure the service meets WCAG2.1 AA.
 - Report received from Shaw Trust 14th March
 - 35 scenarios were identified for testing, of which 15 had issues to address that were partially compliant
 - 5 have been fixed and 10 remaining
 - All issues will be fixed and re-assessed by Shaw Trust – aimed for end of March 2023
- We have taken the Service through the cross rail forum for DIA (Diversity and Impact Assessment)
- We have spoken directly with every user in Private Beta
- Invited representatives from across the industry
- Provided human support for anyone in Private Beta that has had difficulty using the service
- Created a flexible solution suitable for many types of data source

Assisted digital

- Service is entirely a digital service so there is no offline alternative
- All users of the service have a high level of digital maturity
- We are supporting users through detailed help guides and
- Technical support is available for those that need it



54% of the participants we spoke to ranked confident on the digital inclusion scale, while 46% ranked expert. Participants who would be interested in using the RDM were data experts and developers whilst those from business and commercial roles used a computer daily as part of their role.

Digital inclusion scale

User Research: Continuous improvements

The following themes are in focus for improving experiences as we move into Beta

- Additional feedback in the publishing process
- Creation of a simpler registration state
- Continue to design and release more supportive content

Research in Beta

- Gather feedback through online surveys, in-depth interviews and analytics
- Continue interviewing consumers and publishers
- Observe more users without prior knowledge of RDM
- Test alternative content and design enhancements