

**R&D Tax Claim**

# Powr of You Ltd.

Company number: 08839843

UTR: 4086702227

Year ended on 31 December 2020

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# Introduction

This document sets out details relating to the Research & Development (R&D) activities undertaken by Powr of You Ltd (the company) during the accounting year ended 31 December 2020. A detailed explanation of the scheme was given by their accountant to the company’s technical team (competent professionals). This was followed by an examination of individual projects to ascertain whether they meet the relevant tax legislation, the BIS Guidelines and the published HMRC Corporate Intangible Research and Development (“CIRD”) Manual criteria.

# Company Background

Founded in January 2014, the company provides as online data marketplace, which brings the next generation of data analytics to customers and brands.

The company’s platform enables customers to get paid for the data that they already share online, whilst keeping their identity anonymous, and through their revenue share model users can similarly earn rewards and actively manage their online presence.

For brands and research organizations using the platform, the company’s analytics engine examines and refines the data provided by users to help them plug into their consumers’ lives, thus allowing a complete overview of consumer behaviours and trends. The company complies with the United Kingdom ICO Data Protection laws.

# Relevant R&D Scheme

Based on the aggregated FTE employee numbers, turnover and/or total assets, the company meets the SME definition for R&D tax relief purposes.

# Summary of R&D Projects

The company has developed a unique solution for both customers and brands by providing them with unadulterated information regarding consumer needs and patterns. This highly unique platform enables brands to use consumer authenticated and provided, browser, mobile, and productivity data alongside large social media feeds, to analyse and identify trends in customer needs and desires and incorporate those into their products and services.

Significant research and development activities have been, and are continuing to be, undertaken. These activities continue to show solid research-based results, which is evident in the continued development of the products.

For users, they have built a personal insights and data monetization tool to help consumers understand patterns in their online footprint through metrics and graphs.

For brands we’ve built research products that can perform thorough cross-examination of consumer behaviours and provide important analytics related to their trends from data collected through the company’s proprietary technology and algorithms, various digital platforms, devices and technologies including social media, music apps, fitness tracker, productivity tools. This year they have further innovated to bring about instant data and instant analytics offering to help business decision makers keep at-pace with the continually changing digital world.

The company are also using various Application-Programming-Interfaces (APIs), building browser extensions and mobile apps with proprietary algorithm to further expand their data collection sources. Their core analytics engine can make any user data anonymous while extracting insights from it that are utilised by brands for creating desired products and developing effective marketing strategies.

# Baseline Technology

The company conducted a thorough analysis of the competitive marketplace and studied many different offerings that were available for both the customers and the brands.

Existing competitors relied primarily on indirect methods for collection of large amounts of consumer data through focus groups, survey, website cookies and web scraping. This comprise an inefficient method for analysing consumer behaviour since only a small number of consumers can be contacted / interviewed to gain insights for developing products and strategies for larger audiences. Their target market required large volumes of online consumer data through social media that is live, natural, and unaltered; however, the existing baseline technologies were unable to meet such demands.

Competitors are also looking at intrusive technology to collect consumer data with an “all data” or “no data” approach, where the user has to either provide permission to everything on their devices which makes their solution only viable for a small portion of consumer. This type of technology is now also being barred from the approved mobile app stores.

Lastly the time to get actionable insights from these data sets make it difficult for brands to keep up with the pace of change in the digital landscape. Specifically, the creation of the instant data and instant analytics services has been a huge step forward in research technique built by the company.

# Scientific / Technological Uncertainties

There are several scientific/technological uncertainties within these projects where knowledge of whether the project/activity was technologically feasible, or how to achieve it in practice, was not readily known by a relevant competent professional.

The main uncertainties are detailed below:

1. Given Apple’s new guidelines and limitations how do we capture iOS behaviour data with user permission?
2. How do we port the browser extension functionality over to the Safari browser?
3. How can we use the serverless infrastructure fundamentals from our instant product in our ongoing metering product that requires always-on?
4. How do we minimize deployment errors and minimize down time during multi-platform deployments. Our infrastructure, though operational, is running into errors due to manual steps in deploying updates to the products. The deployment cycle is also tedious and lengthy.
5. How do we send user data to client servers directly in a secure way across the public web?
6. Given the new limitations on resource time due to Covid outbreak, how do we keep up with client demand for quick turnaround on our services, with no downtime even when our team members sometimes have to be away for weeks at a time if they (or their family members) are unwell.
7. How can we optimize the consumer behaviour analytics process to allow for faster turnaround times while maintaining or enhancing the level of insights we provide to clients on our instant data product? Though the data is instant the analysis takes about 2 weeks at the moment and is a pain point for clients.

# How the Uncertainties Were Overcome

The scientific/technological uncertainties outlined above required substantial research & development work and were addressed as follows:

1. We have continued researching options for being able to provide data capture capabilities to users and clients service on iOS devices. Due to the challenges presented by Apple's ecosystem, rules and our focus on only gathering relevant, permissioned data and given past work on Proxy

For the VPN based solution options for iOS we looked at:

* 1. researching numerous providers of VPN services that are currently in the market - we discovered that there were many consumer VPNs in the market that were being used to gather data with and without consumer consent, but the commercial VPN offerings were very limited in number and priced for extremely large enterprises - thus prohibitive for our company. The price entry points were also very large, thus prevent trialling to demo and understand capabilities. Also the feature sets were not meant for deployment for our user base, as they were specialized for internal network access.
  2. assessing what it would mean to develop one internally - through numerous trials of Open Source software to test building a VPN service, we realized that the level of effort required and the functionality provided makes it not a suitable solution to pursue. The VPN solution captures too much data and it requires servers and bandwidth to be channelled through the provider's servers making it very expensive and also cumbersome to maintain at scale.

For Proxy based solution, we utilized our research from 2019 to identify the right Open Source software, mitmproxy, to build a proxy based offering. Mitmproxy came built in with many features but our lead iOS developer realized the major gaps in the product and what needs to be addressed - certificate signing for SSL, knowing which user is using the service, and inability to prevent capturing all unnecessary or personally identifiable data. This requires additional research and will have to continue into the next year. The lead developer has already made some headway in the codebase to address some of these issues. We need to be sure they can all be resolved, and that we are only capturing necessary data and handling the potential personally identifiable data properly

1. We were spending significant effort maintaining extension version across several browsers. With every update to the Chrome extension, since this was the most used version by users, was then manually updated in every other browser extension codebase and then each had to be tested. This has been a long-time challenge for us as it adds a lot of time before deployment to production. So our extension specialist, researched on how we could either reuse the Chrome codebase or at least minimize the time taken to port changes to the other browser extension codebase. The developer with extensive research comparing Chromium browsers vs. Safari, was able to identify the differences in the codebases. Furthermore, he found a tool to support porting extension from Chrome to Safari easily. It still requires verification steps given the complexity of our code but it’s a big step forward and far more effective method of porting and maintenance. The next challenge is now on the deployment of the Safari extension for ongoing updates as the extension cannot be released on the extension store and we need to find a way to deploy it outside of the store to users
2. We saw success with the serverless architecture porting for our Instant Data products and have realized that it provides major cost savings while allowing for easily deployment and scaling so they continued porting additional products to the serverless architecture - Via products. We had to factor in the component of always-on setup in mind and specifically add additional concurrency and logging into the mix to support greater API call traffic and identifying issues. We slowly moved the entire standalone behaviour data product line onto the serverless setup on AWS providing unlimited scale when needed and also zero cost when the system is not being used. The uptime guarantees of AWS services provided us additional comfort over the setup but to ensure minimal uptime issues, we enabled Edge computing on our APIs and also minimized cold start components on AWS Lambda.
3. Beyond moving to the non-server based infrastructure, aka serverless, given the extensive and growing reliance on AWS serverless technology and also growing product base. We noticed a large effort in trying to manually update the various services for minor and major changes, for e.g. AWS Lambda functions, API Gateway, etc. Furthermore, there was no historical tracking of changes in code, like there used be with Git on Visual Studio. We were manually making and deploying all changes to all AWS service - which requires a lot of time, prone to many human errors, provides no back-tracking of changes and makes the deployment cycle lengthy as our backend services were now connected to the website, mobile apps, and on browser extensions. We were searching for a way to address these issues. This was a significant research and development effort this year to overhaul our entire development and deployment process. Finally, after quite a bit of research, the lead developer identified a templating engine, AWS SAM, that allowed for us to be able to address the issues above. The process to port to the new templating engine was quite tedious as we had to start over on all of our current codebase written in C# and not currently programmed on Lambda functions and redo them to create in the new engine:
   1. It required all references between Lambda codes to be dynamic as the names of functions were quite arbitrary, so we wouldn't have prior knowledge of function names
   2. We had to bring together deployment of S3, Lambda, API Gateway, Kinesis Firehose, Stripe, Firebase connectivity all in one deployment cycle. We acted on this change with our current Powr of You backend codebase, as a starting point. We ran into quite a few challenges day-to-day and had to meticulously research and resolve for each function
4. We have been sending data received from users directly to our servers and storing in AWS S3 buckets. RDS tables, etc. but have been receiving increased requests from clients to be able to store on their end as well and in some cases stored exclusively on their end, without touching our storage services. This is quite a feat as it requires us to format the data, clean it for irrelevant data, sanitize it for any sensitive information (personally identifiable information, etc.), and then package it again before delivery to clients all in matter of seconds on a potentially low bandwidth connection and/or low performance devices as the user devices and connections vary significantly in various countries. After extensive research and testing we put together a solution using:
   1. some features available within Browsers for in-memory processes with some optimization on required on how our code was capturing and cleaning the information for quick processing
   2. AWS S3 for listing of keyword and domain blocklists
   3. AWS Lamba (alongside AWS API Gateway) capabilities to be able to process requests, compression of objects and cleaning in-memory, while the user is going through the necessary permissioning steps.

After many tests in various bandwidths, device types, browser versions, we have fine-tuned the process to seamlessly work for users.

1. Coronavirus and the unpredictable nature of people’s availability due to their or their family’s illness brought along a lot of challenges for our small team. We quickly realized that though the demand for our services was increasing as e-commerce was increasing, we were not always able to keep up with the pace and timeliness on our operations side. We had to do some very quick research and start iterating for clients to use a self-service platform to generate and approve quotes, add information required to launch research studies, track the study progress and be able to access analytics dashboards as well all in one place. This platform was the only solution that allowed us to move away from manual handovers and minimize errors in getting client studies live. This platform though still in its infancy has already become a great resource to make our clients less reliable on our operations team and minimize errors made in the past as we were communicating all this information via email to specific team members pre-Covid.
2. Similar to our operational challenge, we were running into challenges on our analytics team as we scale our instant data offering. Due to the complexity of the behavioural data we capture there is a significant clean-up, data enhancement, data analysis and visualization effort that goes into us delivering the final dashboard to the client. However as we have scaled the data side and are gathering larger sample sizes for each study, the analytics offering has been scaling in a linear way which is problematic as most of our dashboards are now taking between 10-14 days to process. With this research we took a few different measures to speed up the delivery while also enhanced our insights capability to deliver more value to the client:
   1. The analysis script was broken down into various functions to separate the time-consuming functions into parallel running processes where feasible
   2. In researching the functions that take a lot of time, we also found that the data enhancements in looking up product categories, configuring key website specific purchasing paths were especially cumbersome efforts. We’ve started building a product categorization machine learning algorithm to improve the speed and availability of information on product categories as we often don’t find the URLs that the research participant would have visited in the last 3 months (e-commerce websites have product pages changing very often). For the latter issue on configuring website specific paths, we have not been able to identify a better solution yet and this is still under review.
   3. Lastly the biggest enhancement was that we broke down the script run to run on the individual research participant raw data files as that allowed us to run the analysis on the go while the data gathering was being done rather than waiting till the very end to conduct any type of analysis

# How the Project goes beyond the Current State of Knowledge

Although significant research and development work is ongoing, many elements are now complete and production ready. The unique functionality has allowed the company to recruit a growing volume of consumers and win new business from a number of research companies, brands and agencies who are starting to adopt the technology.

**Advance in scientific/technological knowledge or capability**

|  |  |
| --- | --- |
| Does the project/activity | Comments |
| Extend overall knowledge or capability in a field of science or technology. | Yes |
| Create a process, material, device, product, or service which incorporates or represents an increase in overall knowledge or capability. | Yes |
| Make an appreciative improvement to an existing process, material, device, product, or service. | Yes |
| Use science or technology to duplicate the effect of an existing process, material, device, product, or service in a new or appreciably improved way. | Yes |

# Qualifying R&D Expenditure

The resources deployed on the R&D elements of this project are detailed below:

## Year ended 31 December 2020

* Staff time costs £121,360
* Subcontractor costs (@ 65%) £760
* **Total £121,854**

# R&D Tax Claim

The company would like to claim tax relief for the R&D activities as follows:

## Year ended 31 December 2020

* Adjusted loss £1,628
* Qualifying R&D Expenditure £121,854
* Revised loss to surrender £158,673
* **R&D Tax claimed @ 14.5% £23,007.59**

The company would like this tax credit to be paid to the bank account as detailed below.

# Bank & Contact details

## Bank details for BACS transfer of tax rebate

Account Name: Powr of You Ltd

Bank: TransferWise

Sort Code: 23-14-70

Account Number: 61284781

## Contact details

Should you have any questions about his R&D tax claim, please contact:

Shruti Malani Krishnan

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