

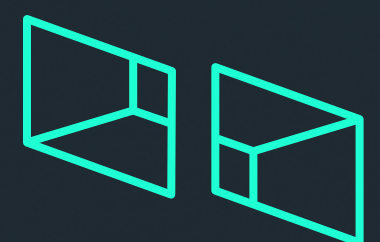
# Data Federations Prospectus



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# Data Federations Prospectus

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The purpose of this document is to provide an overview of the process involved in building a Data Federation. [Pages 2-5] contain a general introduction to the concept of Data Federations, but if you'd like to skip straight to the practical guidance, please turn to [Page 7].




# What is a Data Federation?

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Data Federations are a new approach to digital collaboration based on the use of distributed, privacy-preserving technologies such as Federated Learning and Distributed Data Mining. These technologies have different properties and applications, but the general point is that they allow collaborators to do things with their data without requiring that it is held in a central location or a standard format.

**The possibilities afforded by these technologies allow for different kinds of collaborative structure, in which:**

- No partners are required to expose or share data if they don't feel comfortable doing so
- There is no centralised dataset, but a rather a shared toolset and set of outputs
- It is possible to accommodate different ways of understanding and working with data
- Partners can focus on achieving their shared goals within existing constraints, rather than wrestling with previously intractable barriers to collaboration



# What will a Data Federation do for me?

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Data Federations are a way for a diverse range of actors to work together on the basis of a common purpose to accomplish a set of shared goals. What this means is up to you! However, the prerequisite of a successful collaboration is that you and your partners are able to form an agreement about the change you want to see in your sector and the methods you will use to achieve it. One of the purposes of the Federation is to guide you through the process of forming this agreement.

**Whatever your aims, by the conclusion of your initial project period, you and your partners will have created:**

- A working collaboration based around a signed agreement defining common purpose, specific goals, and the terms of the partnership
- A digital toolset tailored to create a set of outputs which will allow you and your partners to address your shared goals
- A set of relationships grounded in shared understanding and the experience of a successful collaboration, with scope to iterate and expand





# How do we get started?

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## **1. The first step to building a Data Federation is to gather a group of collaborators around a shared goal.**

This might be the colleagues you work with everyday, or people from other organisations in your sector. What's important is that you have a purpose in common. This might be to develop more detailed insights into the way your sector works, to better represent the interests of a particular group, or to create strategies which allow you to more effectively realise your values and principles through your work.

## **2. The second step is simple - get in touch with Etic Lab!**

In the first place, all you need to bring to us is a general sense of goals you would like to achieve and the collaborators you have or would like to engage. You don't need to have all your desired partners on board, and you don't need an exhaustive understanding of your available data resources - we'll work these questions out step-by-step over the course of the project.

Etic Lab's role in this process is twofold: to provide the technical expertise necessary to execute the digital side of the project, and to guide you through the step-by-step process of building a Data Federation.





# Building a Data Federation

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What follows is a systematic process for constructing a working Data Federation, setting out a series of key milestones and the steps necessary to achieve them. This consists primarily of a series of workshops and conversations designed to help you establish common purpose, review your available resources, design a project and draft an agreement to govern the Federation.

**Since the needs of our clients will vary in each case, we've designed this process to be as flexible and modular as possible.** Depending on the situation, it might be that it isn't necessary for your collaboration to go through all of the steps outlined below; by the same token, it may be that you need to spend a little more time working on a particular area.

**Your Data Federation is a bespoke creation designed by and for you and your partners;** we'll work with you to tailor a process that fits your needs and resources.





# Practical Guidance





# Scoping

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**Goal: to lay the ground work for a successful collaboration by establishing common purpose and specific goals, developing a shared understanding of what's possible and surfacing potential barriers or ethical issues.**

**1a) Workshop - Establish common purpose and shared goals**

The initial core group of partners meets and completes a series of exercises designed to help them express and discuss the values and goals which have motivated them to join the project, and to devise the concrete outcomes they would like to accomplish.

Output: a group statement declaring the purpose, value and goals of the project

**1b) Workshop - Technical Scoping**

Etic Lab showcases a range of available technical options, and invites collaborators to explore how they might be applied to the goals established in 1a. Collaborators have an opportunity to share their past experiences of working with data, and any hopes, fears or expectations they may have developed.

Output: a bank of ideas for how data technologies might be used to address the goals of the collaboration which can be later refined into concrete proposals

**1c) One-on-one Discussions– Resource Audit**

Etic Lab holds a series of one-on-one meetings with the partners to discuss what data resources they can contribute to the project, and on what basis. The goal is to help each partner understand what they can offer to the project and on what terms. We will also identify any gaps in our available resources and which external parties might be approached to address them.

Output: Etic Lab compiles a register of all available data resources. Each participant drafts a document laying out a) the resources they are able to contribute, b) the constraints they are operating under, and c) how these constraints can be accommodated by the collaboration



# Scaling and Governance Agreement

**Goal: to approach and onboard any additional partners identified in 1c, and then to create and ratify a) an agreement defining the goals of the federation and the rights and responsibilities of all partners, and b) a technical spec outlining the tools that will developed for the federation**

## 2a) Approach and onboard further collaborators

Etic Lab and Federation members approach additional partners identified in 1c to invite them to join the collaboration. The materials developed during Phase One should be used to quickly get these parties up to speed and allow them to make an informed judgement about their participation.

## 2b) Workshop - Draft Contractual Structure

Working with a flexible template provided by Etic Lab, partners assemble an agreement defining the terms of the Federation. The purpose of this is to settle the following issues:

- What governance and decision-making structures will the Federation employ?
- What are the responsibilities of members of the Federation?
- What liabilities are associated with the collaboration and how should these be managed?
- How will the toolset produced by the Federation be managed? How will its outputs be distributed? What actions will be taken based on the results of the project?
- What are the protocols for expanding and scaling the Federation in future?

Output: an agreement signed by all participants in the Federation, defining governance and accountability structures for this specific project and laying out how they might be expanded in the future.

## 2c) Draft Technical Specification

On the basis of the documents produced in 1c and 1d, Etic Lab will produce a technical specification describing:

- the toolset that will be produced to address the goals of the Federation
- the outputs that will be generated
- the process through which the toolset will be implemented (i.e., what participants will be required to do, whether Etic Lab will require access to their computer systems, troubleshooting procedures)

Output: a technical specification to be distributed to and ratified by members of the collaboration

# Deployment

**Goal: Etic Lab will action the technical specification according to the terms of the Federation agreement**

**3a) Development**

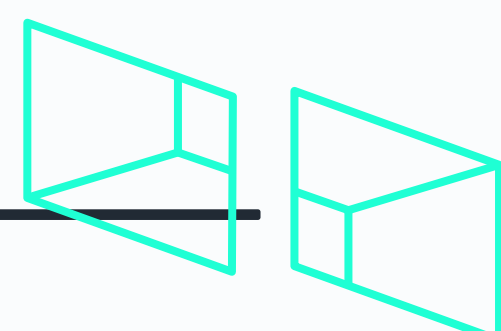
Etic Lab builds the toolset according to the technical spec, with regular updates and demos for Federation partners

**3b) Implementation**

Etic Lab deploys the tool according to the terms of agreement, supervising and supporting partners through the process and providing troubleshooting where necessary

**3c) Results**

Results are gathered and shared with the Federation, which then takes action according to the terms of the agreement





# Evaluation and Iteration

**Goal: The federation convenes to reflect on and evaluate what has been achieved and to make plans for the future**

## 4a) Workshop - Evaluation

All partners come together to assess what went well, what could be done better and how processes may be improved in future.

## 4b) Iteration

Assuming the project has been a success so far, the Federation should conclude by ascertaining how they might build on their partnership in future. This might mean adding new members to extend the scope of their current work, adapting their toolset so that it has a broader range of applications, or taking on a different set of problems entirely. The agreement devised in 2b will contain protocols for how these decisions can be made and carried forward.

It's our hope that the Data Federations model can be the basis for ambitious, long-term collaborations between large partnership networks. However, we shouldn't try running before we can walk! The four stages described above should provide a space for a group of collaborators to build trust and shared understanding whilst expanding their notion of what can be achieved by working together. With these foundations in place, the Federation will be well-equipped to take on more ambitious and far-reaching projects.

