Scenario 1 (Working independently)

* Each collaborator characterises their own sample, using their own instruments (their descriptor).
* They know nothing about the samples of others, or the other descriptors.
* We calculate their individual models, and a federated global model, and compare them.

Scenario 2 (Sharing samples)

* Each collaborator receives samples from the others and characterises them using their own instruments.
* They know about the samples others have produced, but nothing about the other descriptors.
* The instance space increases, but the feature space does not.
* We calculate their individual models, and a federated global model, and compare them.

Scenario 3 (Sharing expertise)

* Each collaborator sends their samples to the others and receives characterisation results back from other instruments.
* They know nothing about the other samples, but they know about the other descriptors.
* The feature space increases, but the instance space does not.
* We calculate their individual models, and a federated global model, and compare them.

Scenario 4 (Sharing everything)

* Everyone shares their samples, characterises everything, and returns results from their individual instruments.
* They know about the other samples and the other descriptors.
* The instance space increases, and the feature space increases.
* This is the complete data set, which we calculate as our baseline.