



# PUBLIC SECTOR SYMPOSIUM

BRUSSELS | MARCH 28, 2023



Integrating EU's data  
using AWS serverless  
technologies  
DG Mare Ocean Store

# Today's speakers



Mirco Wienen  
CTO Consulting at Sentia



Yvan Van Wynsberghe  
Ocean Store Program Manager at DG Mare



Pepijn Mores  
Ocean Store Data Architect at Accenture

# Agenda

Sentia & Accenture

EU Fish in the Cloud

Architectural deep dive

Questions



# Sentia's key messaging

Client  
centric

Technology  
driven

Cloud  
minded



**accenture**

# Sentia will merge into Accenture Cloud First

Local  
presence

AWS MSP  
since 2015

BeNeLux  
partner of  
the year

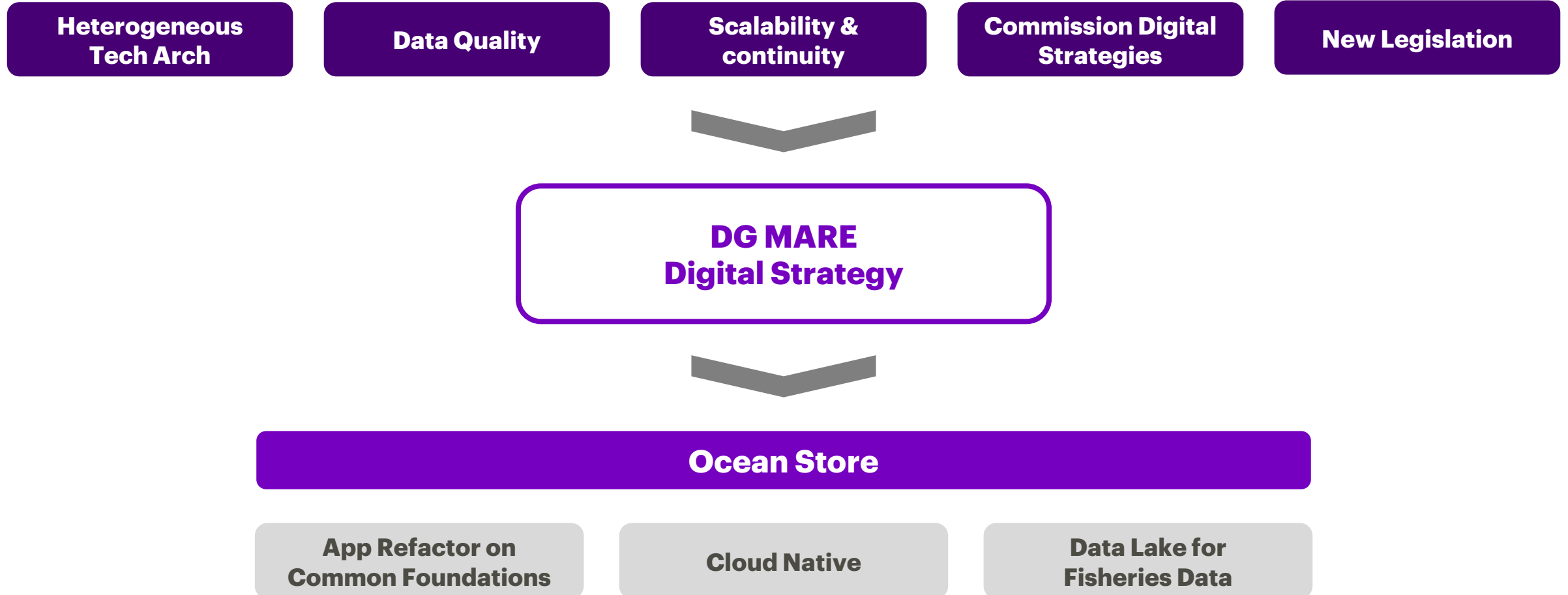
# EU Fish in the Cloud

Business context  
& Use Case Introduction



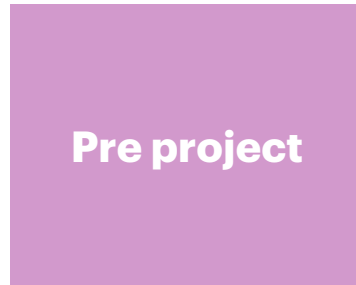


# Why are we here today?



# Project Phasing

**05/2021**  
**Procurement**



**01/2022**  
**Kick-off**



**03/2022**  
**Dev start**



**09/2023**  
**Go-live 1st app**



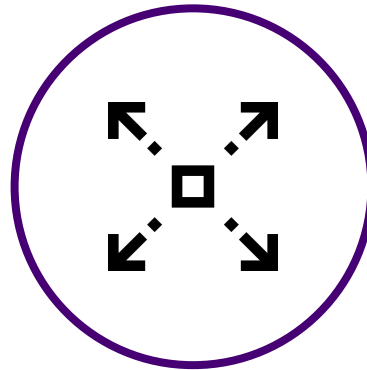
# From Vision To Tech Architecture

Using Ocean Store's principles to design  
a Cloud Native Data lake on AWS

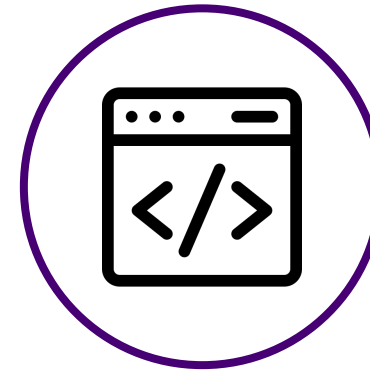
# Principles



**Serverless,  
AWS native services**



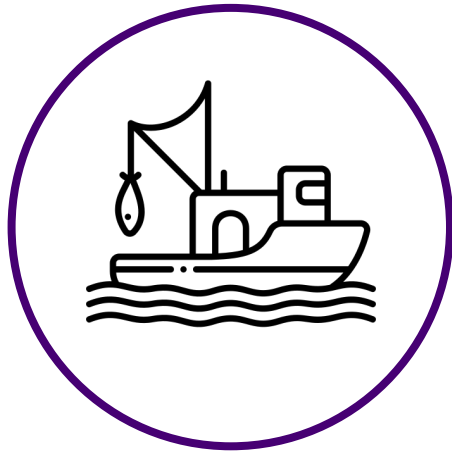
**Extendable  
Foundations**



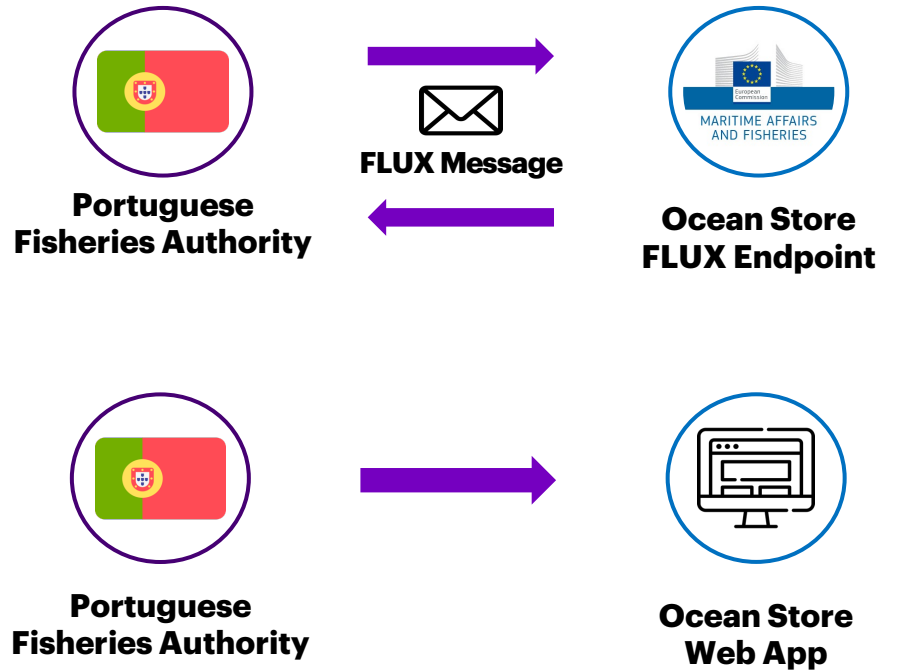
**Everything-as-  
code**

# Let's Dive into the Ocean Store

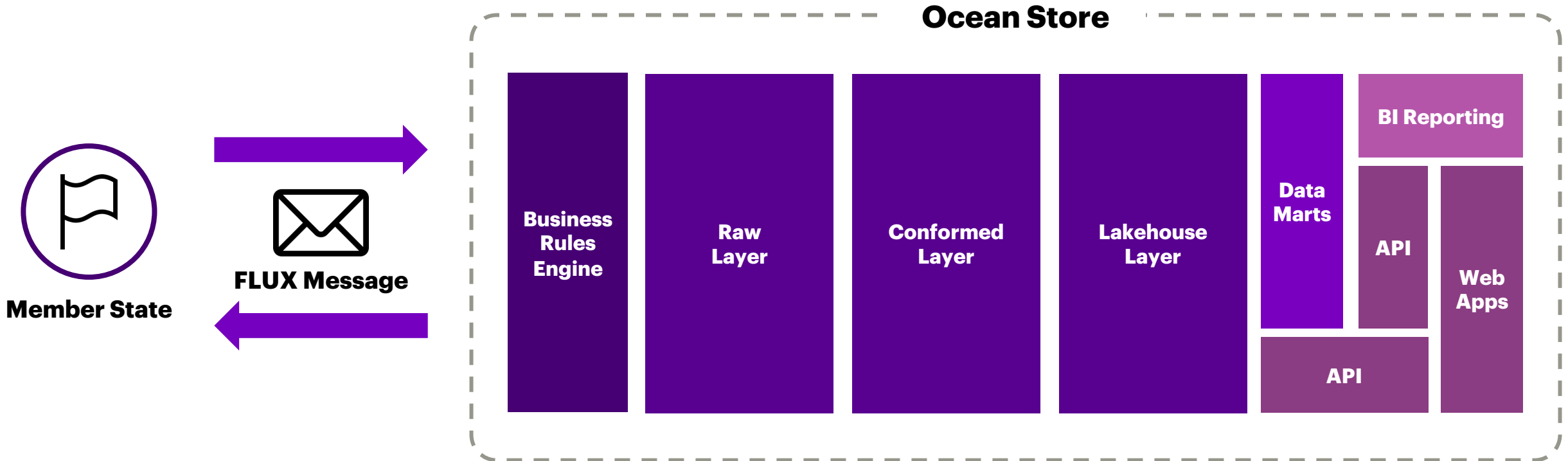
## 1 Portuguese Vessel Catches Bacalhau



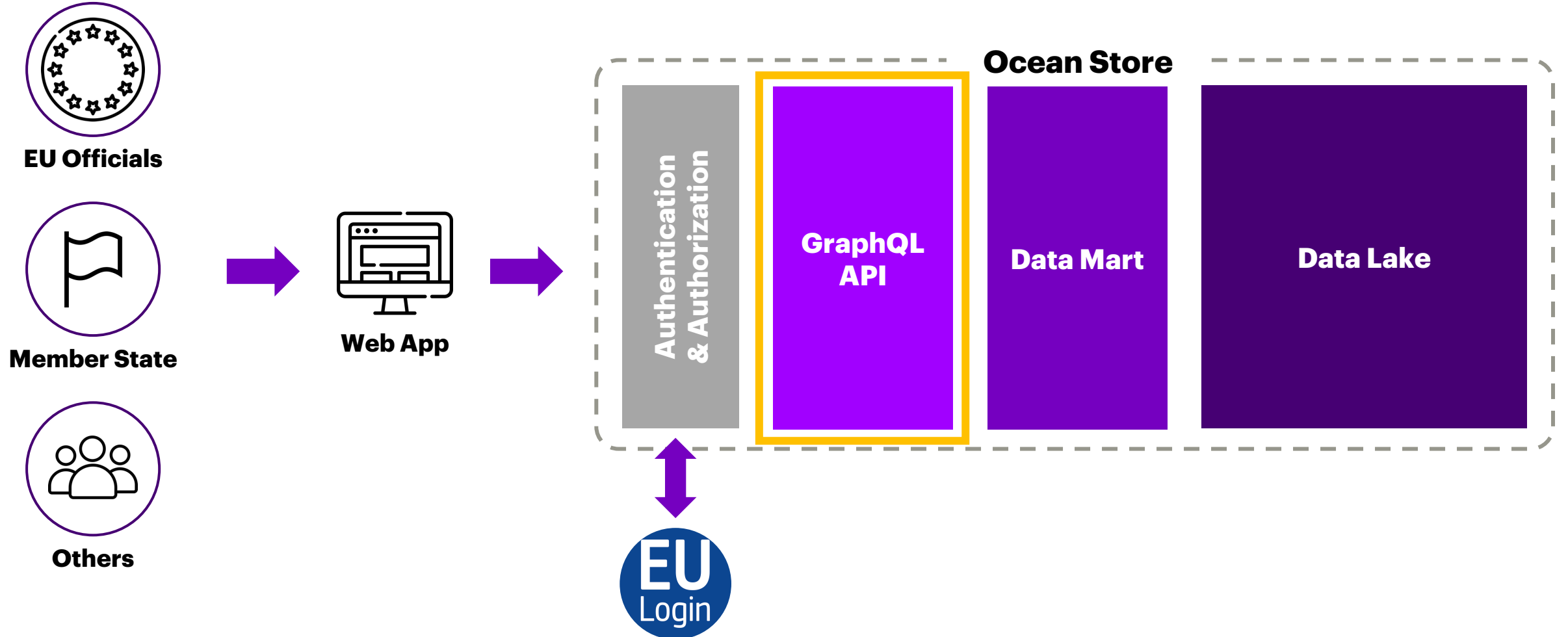
## 2 Portuguese Fisheries Authority Sends & Consults Declarations



# Raw Fishing Declarations Processed into Actionable Insights



# Controlling Fishing Quotas through Data Driven Web Applications



# Exposing Data Products

Choosing the right technology to  
support our integrated data lake

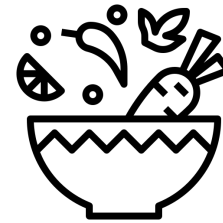


# Introducing GraphQL



## **REST**

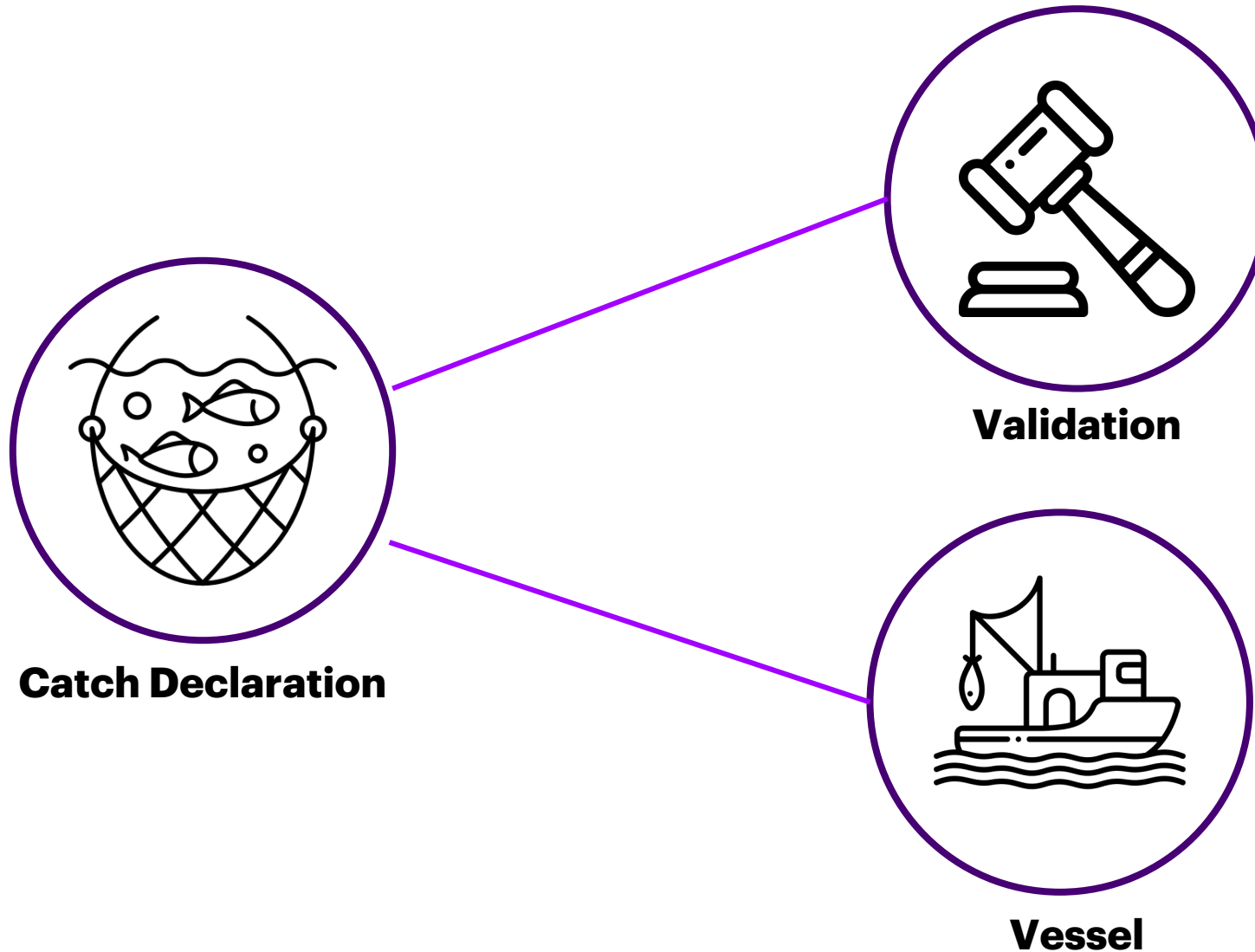
Fixed menu with predefined dishes



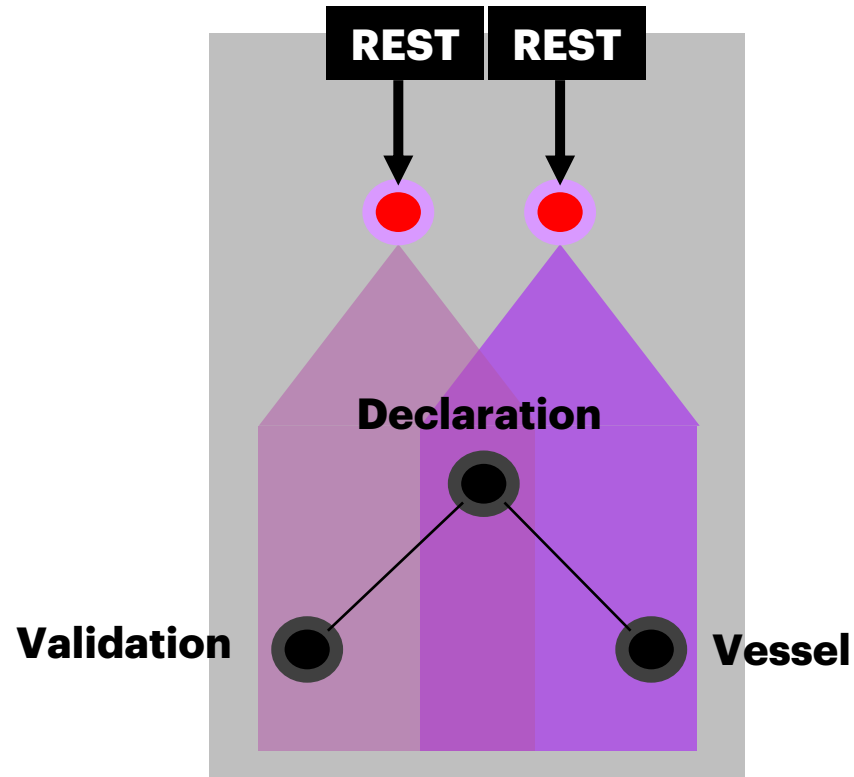
## **GraphQL**

List of ingredients that can be build into a dish

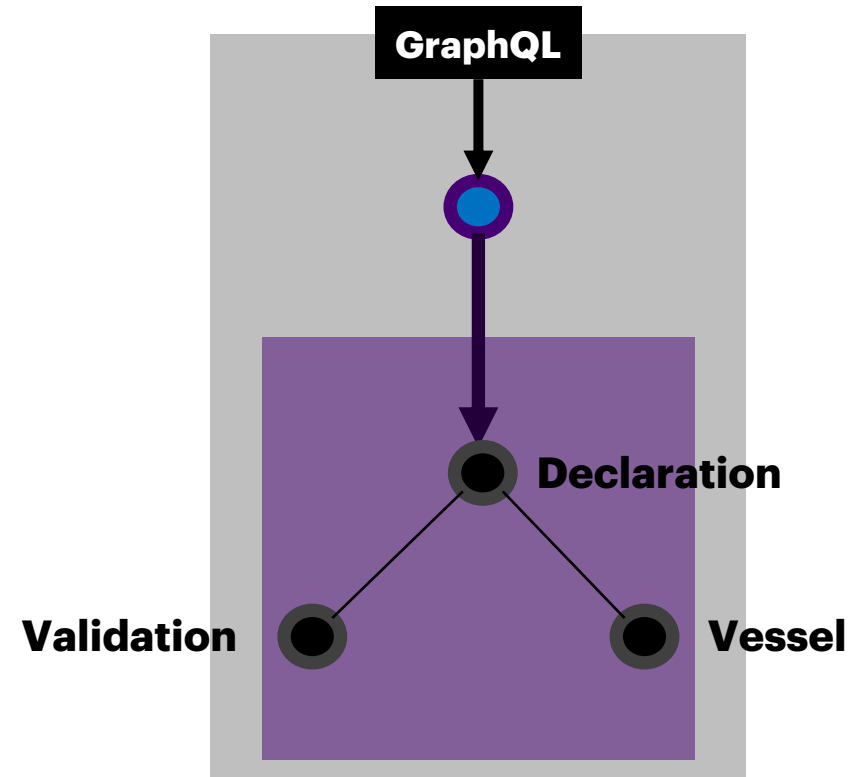
# Let's Take Our Example



# GraphQL vs REST API



- Logical Entity
- Orchestration Entity
- Entity Relationship



- Logical Entity
- Orchestration Entity
- Entity Relationship

## REST Request

```
GET /declarations/os_b5daf780-c77e-1
```

## REST Response

```
[  
  {  
    "osUuid": "os_b5daf780-c77e-1",  
    "catchStatusDescription": "Landed",  
    "sovWatersDescription": "Portugal",  
    "validation": "af780-dafs123",  
    "vesselId": "XYZ",  
    "weight": 1.115  
  },  
  {  
    "osUuid": "os_b5daf780-c77e-1",  
    "catchStatusDescription": "Landed",  
    "sovWatersDescription": "Portugal",  
    "validation": "0dca780-da3",  
    "vesselId": "XYZ",  
    "weight": 0.059  
  }  
]
```

```
GET /vessel/XYZ
```

```
{  
  "id": "XYZ",  
  "flagState": "PRT"  
}
```



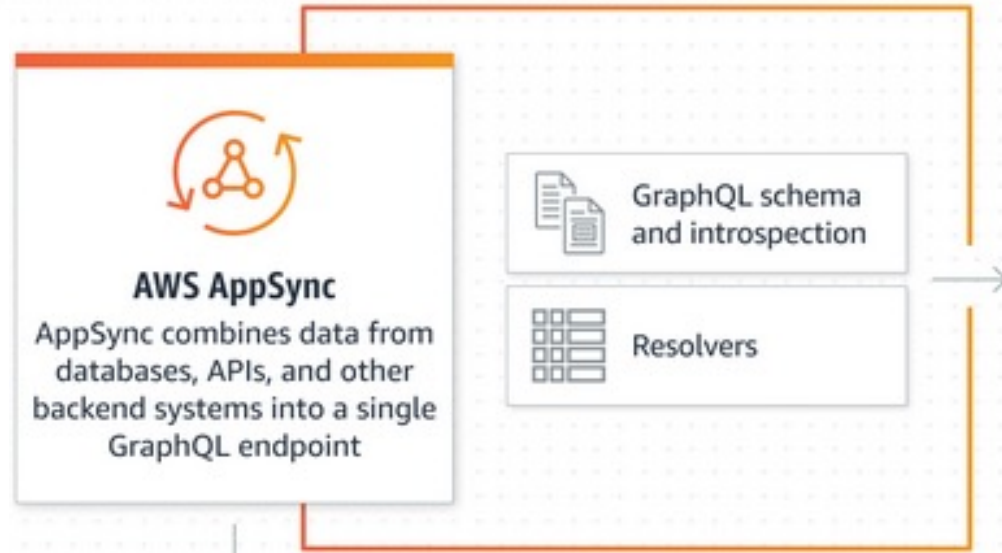
## GraphQL Request

```
{
  "operationName": "getDeclaration",
  "query": "(condition: $condition, first: 20,
    orderBy: STATUS_ASC,)
  nodes {
    osUuid
    catchStatusDescription
    sovWatersDescription
    validation {
      statusDescription
    }
    vessel {
      id
      flagState
    }
    weight
  }",
  "variables": {
    "condition": {
      "osUuid": "os_b5daf780-c77e-1"
    }
  }
}
```

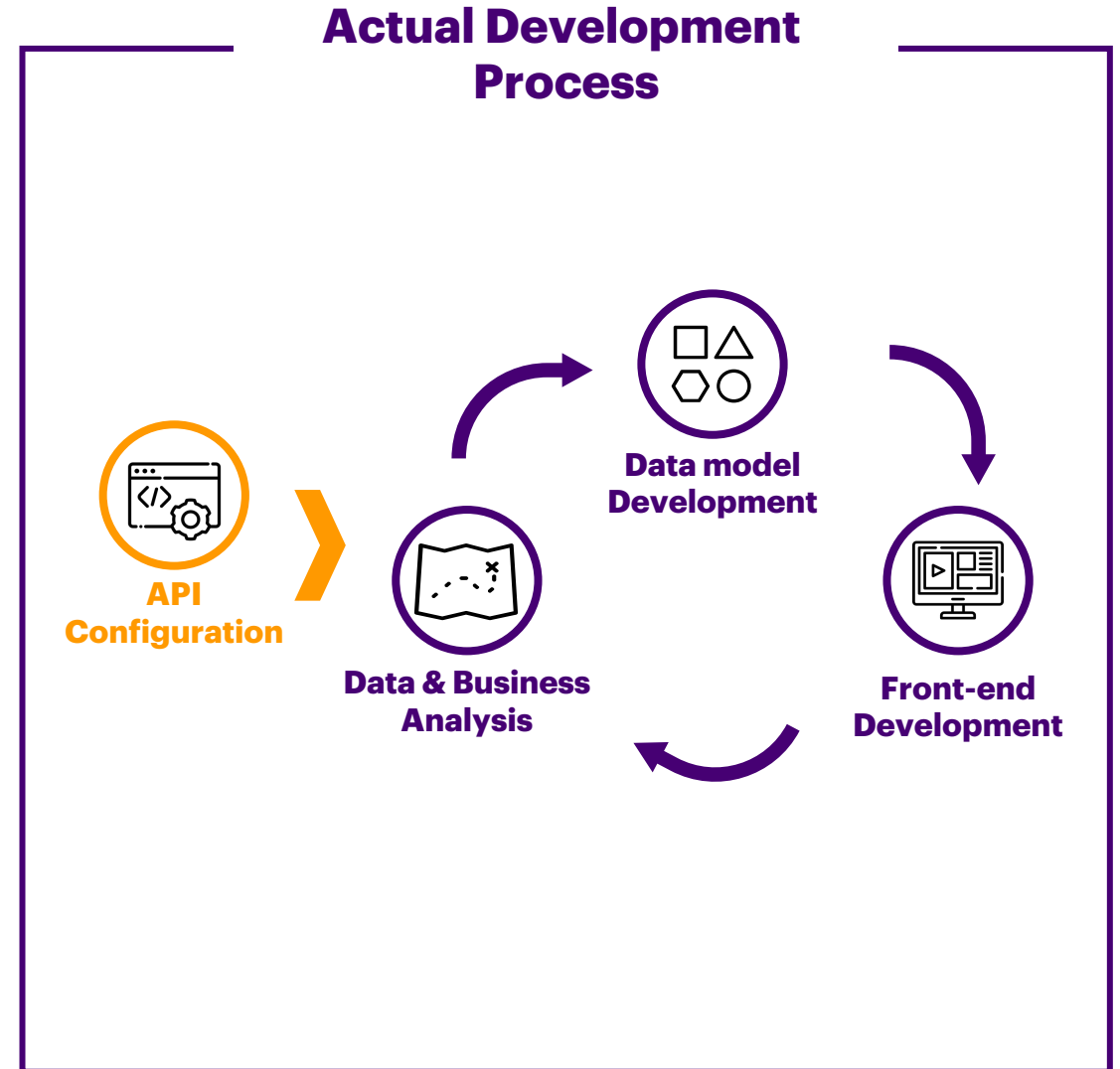
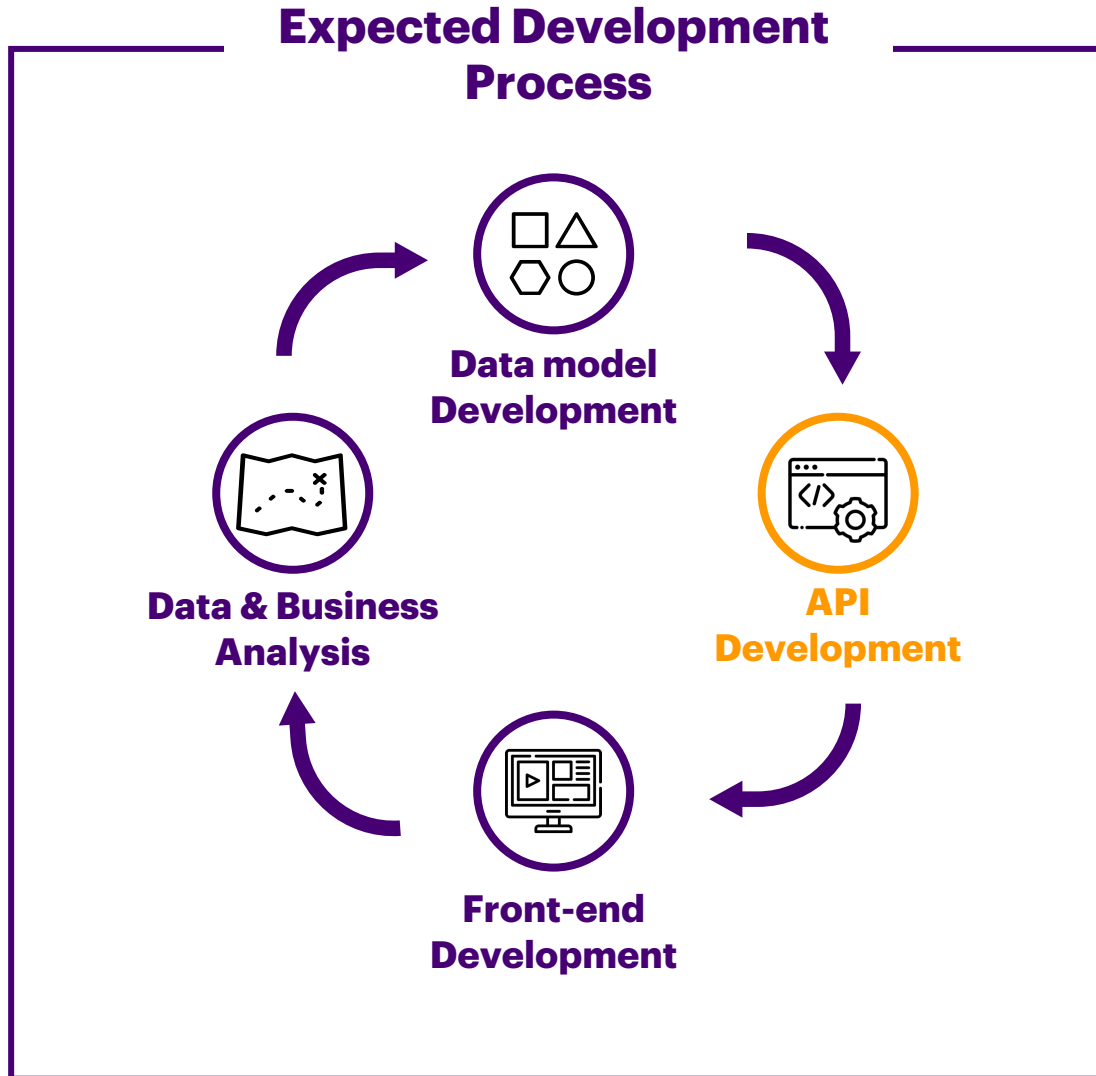
## GraphQL Response

```
[
  {
    "osUuid": "os_b5daf780-c77e-1",
    "catchStatusDescription": "Landed",
    "sovWatersDescription": "Portugal",
    "validation": {
      "statusDescription": "ACCEPTED"
    },
    "vesselId": {
      "id": "XYZ",
      "flagState": "PRT"
    },
    "weight": 1.115
  },
  {
    "osUuid": "os_b5daf780-c77e-1",
    "catchStatusDescription": "Landed",
    "sovWatersDescription": "Portugal",
    "validation": {
      "statusDescription": "ACCEPTED"
    },
    "vesselId": {
      "id": "XYZ",
      "flagState": "PRT"
    },
    "weight": 0.059
  }
]
```

# AppSync



# How did AppSync add value to MARE



Questions?

Come meet us at our booth!



# Thank you!



Please complete the session survey in the mobile app