

# ecosystemOS protolab webinar

Using machine learning to enable automation & intelligence in your ecosystem.

*Use Case: Automated 'startup development phases' -labelling for startup events*

**June 8 2021**



| digiole

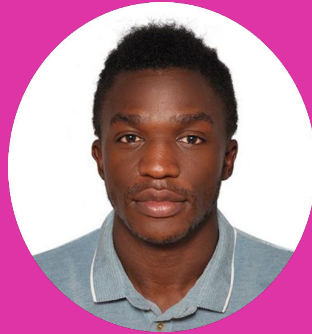
# Agenda

1. Introduction
2. The Pathway to Ecosystem Intelligence
3. Ecosystem intelligence cornerstones and related opportunities
4. Current machine learning prototype work: Automated 'startup development phases' -labelling for startup events
5. Potential use cases to be developed
6. Taking action to enable ecosystem intelligence
7. Q&A

# ecosystemOS Team



**Oscar Ramirez**  
CEO  
Digiole  
Finland



**Gabby Zencha**  
Machine Learning Engineer  
Digiole  
Turkey



**Konstantinos Voloudakis**  
Machine Learning Engineer  
Digiole  
Greece

# Introduction


Hi there! 🙌

We are digital architects,  
focused on removing ecosystem  
fragmentation.

# Our approach

Build on top of what you have in use, tailor to your needs, incrementally improve.

Build with common assets, while maintaining independence and ownership of your solution and future developments.



**Building ecosystem connectivity  
like playing with LEGO**

# ecosystemOS

digital building blocks to develop  
ecosystem interoperability





# Building Blocks

**UI  
components  
library**

**Common  
documented  
APIs**

**Ecosystem  
user/teams  
accounts**

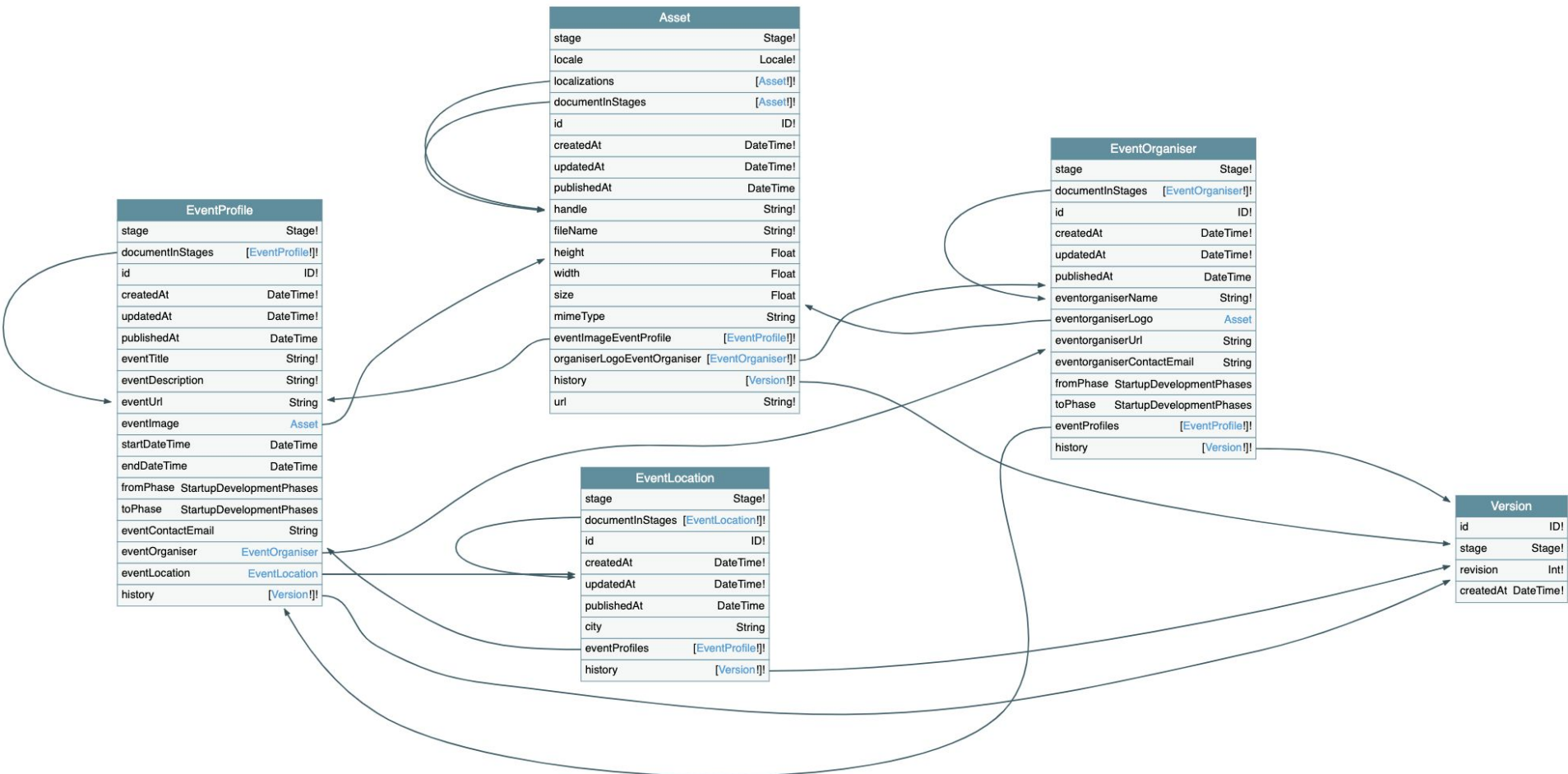
**Connected  
Data Hubs**

**Open  
standard  
Data Model**

**Machine  
Learning  
Algorithms**

# Events Use Case Example

## End-to-end



New Tab ×



PRETTIFY

HISTORY

https://api-eu-central-1.graphcms.com/v2/ckcoj9ywu21x601z4d4zt4x1/master

1 # Write your query or mutation here

2



DOCS

SCHEMA

QUERY VARIABLES HTTP HEADERS

SCHEMA

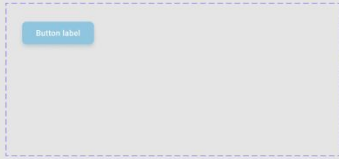
DOWNLOAD

JSON

SDL

```
createEventLocation(data: EventLocationCreateInput!): EventLocation!
updateEventLocation(
  where: EventLocationWhereUniqueInput!
  data: EventLocationUpdateInput!
): EventLocation!
deleteEventLocation(where: EventLocationWhereUniqueInput!): EventLocation!
upsertEventLocation(
  where: EventLocationWhereUniqueInput!
  upsert: EventLocationUpsertInput!
): EventLocation!
publishEventLocation(
  where: EventLocationWhereUniqueInput!
  to: [Stage!]! = [PUBLISHED]
): EventLocation!
unpublishEventLocation(
  where: EventLocationWhereUniqueInput!
  from: [Stage!]! = [PUBLISHED]
): EventLocation!
updateManyEventLocationsConnection(
  where: EventLocationManyWhereInput!
  data: EventLocationUpdateManyInput!
  skip: Int!
  first: Int!
  last: Int!
  before: ID!
  after: ID!
): EventLocationConnection!
deleteManyEventLocationsConnection(
  where: EventLocationManyWhereInput!
```

## Buttons



## Text Field



## Site Name



### Business Model Canvas Workshop

@ Event location, by  
Organiser Name

Sat, Jun 6th | 04:30pm

Register

Learn the basics of business models and Business Model Canvas theoretically and apply the Business Model Canvas at practical level. A business model describes how a company creates, delivers and captures value. Everyone has their unique way of viewing the business model. During discussions about this, there has been an increasing need for an uniform template to define and discuss the business model. This template should be applicable to new and old businesses alike, across industries. Learn the basics of business models and Business Model Canvas theoretically and apply the

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## Event Search M...

## Full Event Listing ...

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## EventD...

### Business Model Canvas Workshop

@ Event location, by  
Organiser Name

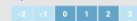
Sat, Jun 6th | 04:30pm

## Event Additional...

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## SDP Bar...



## Full Event Listing

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## D...



## E...



## EventDetails

### Business Model Canvas Workshop

@ Event location, by  
Organiser Name

Sat, Jun 6th | Time: 04:30pm

Register

## Event Additional Details

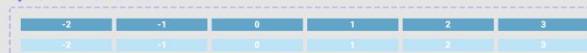
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## SDP Bar



## SDP Variants



## Frame 1





## Business Model Canvas Workshop

@ Event location, by Organiser Name

Sat, Jun 6th | Time: 04:30pm



Register

-2

-1

0

1

2

3



## Business Model Canvas Workshop

@ Event location, by Organiser Name

Sat, Jun 6th | Time: 04:30pm



Register

-2

-1

0

1

2

3



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0

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2

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Register



-2

-1

0

1

2

3



## Business Model Canvas Workshop

@ Event location, by Organiser Name

Sat, Jun 6th | Time: 04:30pm

Register



-2

-1

0

1

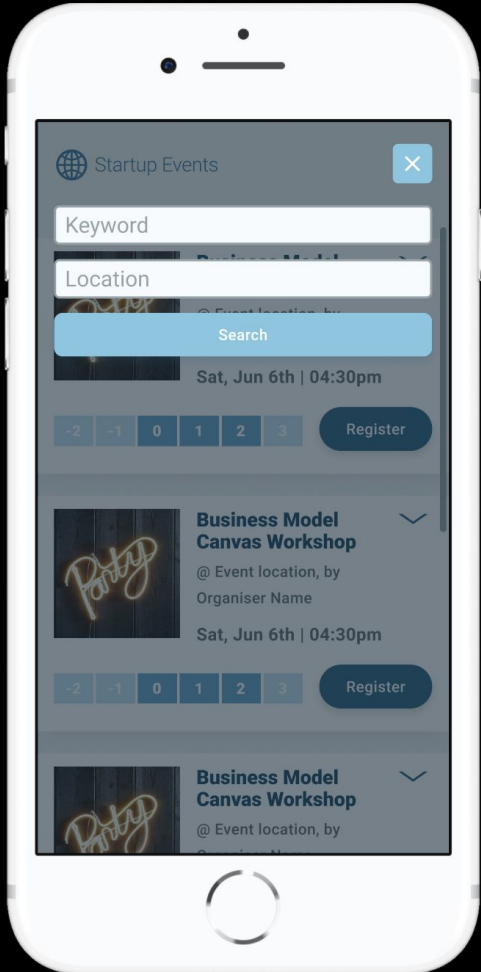
2

3

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Startup Events



Keyword

Location

Search

Sat, Jun 6th | 04:30pm

-2 -1 0 1 2 3

Register



Business Model Canvas Workshop



@ Event location, by  
Organiser Name

Sat, Jun 6th | 04:30pm

-2 -1 0 1 2 3

Register



Business Model Canvas Workshop



@ Event location, by

# Benefits

01

**Quality** - Standardised data for ecosystem actors. No longer struggles in querying or analysing randomly structured data.

02

**Accessible** - Make data technically accessible for anyone by rules defined by the rightful owners of data in question. Some data is open and public. Some is private or proprietary, yet technically accessible.

03

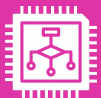
**Progressive** - We enhance rather than replace your existing tools and workflows. Build on top of what is already in use. Minimize disruption in existing processes and needs in “tools training” for operative teams.

04

**Incrementally Adoptable** - Start creating ecosystem value ‘one use case at a time’. Scale as you ambition, ability and budgets grow, based on proven value delivered.

# The Pathway to Ecosystem Intelligence

# Levels to Ecosystem Intelligence



Level 5

Intelligence



Level 4

Data Distribution



Level 3

Ecosystem Operator



Level 2

Common Terminology

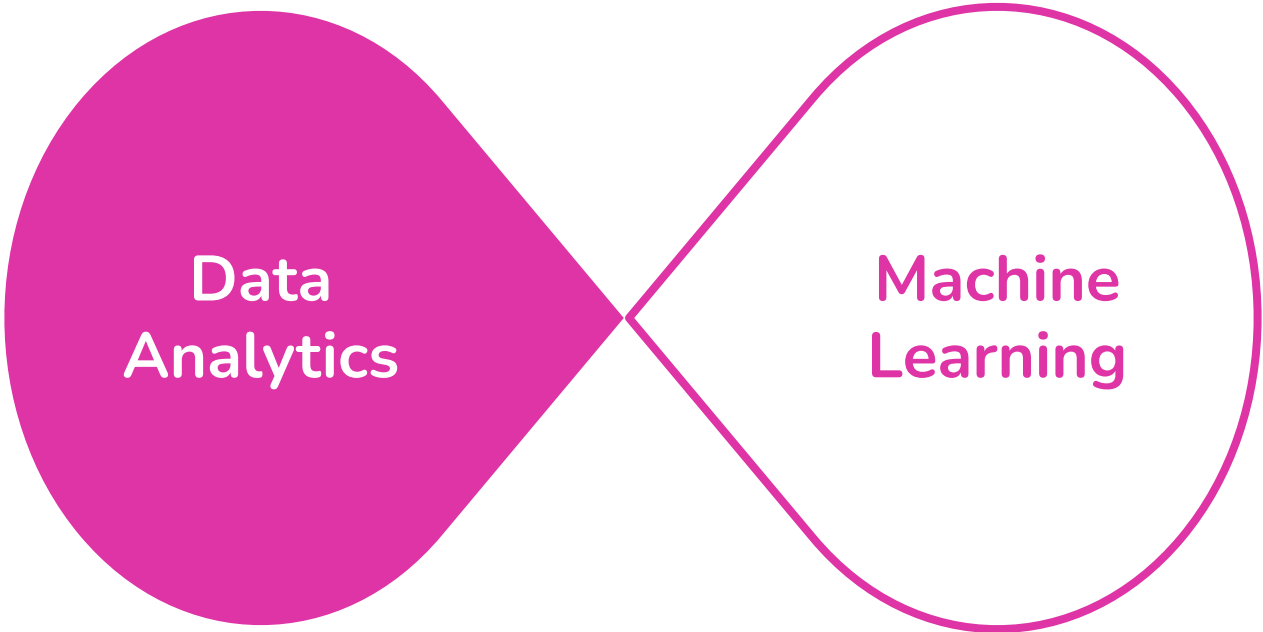


Level 1

Manifesto

# Ecosystem Intelligence Cornerstones

# Ecosystem intelligence cornerstones



# Ecosystem Intelligence Opportunities

# Ecosystem intelligence opportunities

- 1 Improve ecosystem services
- 2 Automate workloads
- 3 Prevent gaps and bottlenecks
- 4 Predict ecosystem performance
- 5 Predict behaviour
- 6 Manage and analyse ecosystem data

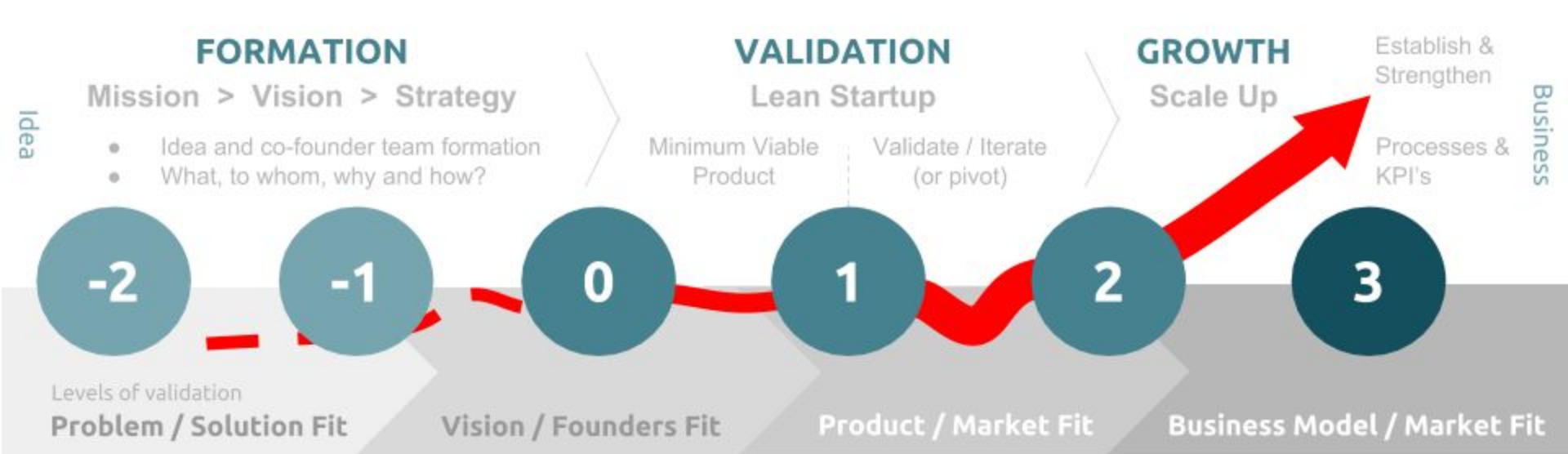


**Use Case:**  
**Automated 'startup  
development phases'**  
**-labelling for startup events**

# Validated problem

- Mismatch between startup events and audience
  - Content leading to wrong expectations
  - Content too basic/advanced
  - Not finding the right person (people) to meet.





**Ideating**  
Entrepreneurial ambition and/or potential scalable product or service idea for a big enough target market. Initial idea on how it would create value. One person or a vague team; no confirmed commitment or no right balance of skills in the team structure yet.

**Concepting**  
Defining mission and vision with initial strategy and key milestones for next few years on how to get there. Two or three entrepreneurial core co-founders with complementary skills and ownership plan. Maybe additional team members for specific roles also with ownership.

**Committing**  
Committed, skills balanced co-founding team with shared vision, values and attitude. Able to develop the initial product or service version, with committed resources, or already have initial product or service in place. Co-founders shareholder agreement (SHA) signed, including milestones, with shareholders time & money commitments, for next three years with proper vesting terms.

**Validating**  
Iterating and testing assumptions for validated solution to demonstrate initial user growth and/or revenue. Initial Key Performance Indicators (KPI's) identified. Can start to attract additional resources (money or work equity) via investments or loans for equity, interest or revenue share from future revenues.

**Scaling**  
Focus on KPI based measurable growth in users, customers and revenues and/or market traction & market share in a big or fast growing target market. Can and want to grow fast. Consider or have attracted significant funding or would be able to do so if wanted. Hiring, improving quality and implementing processes

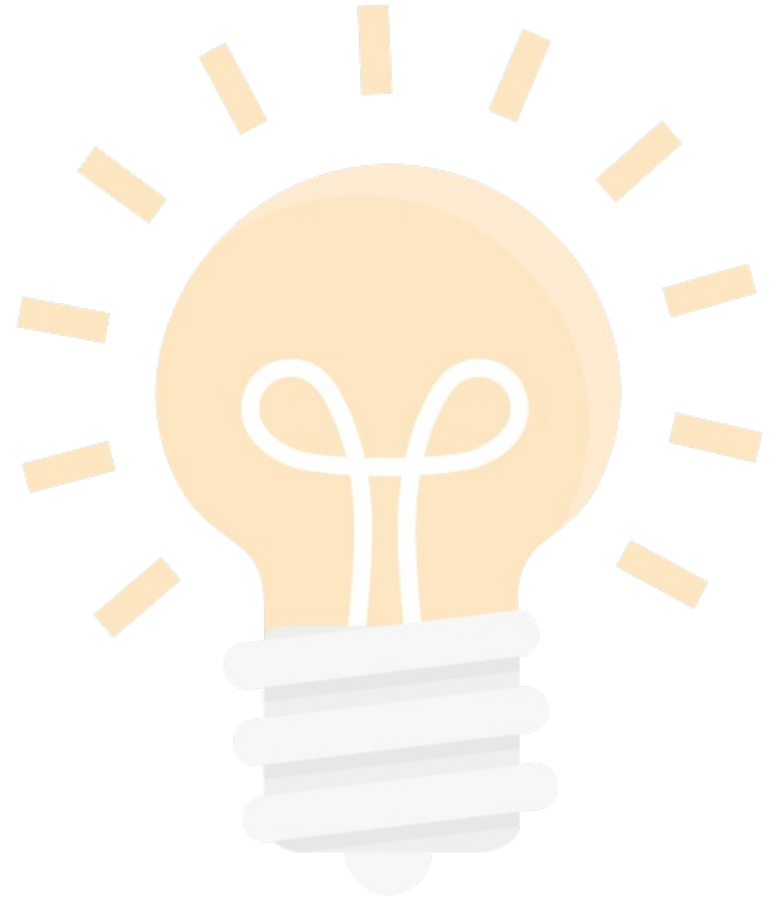
**Establishing**  
Achieved great growth, that can be expected to continue. Easily attract financial and people resources. Depending on vision, mission and commitments, will continue to grow and often tries to culturally continue "like a startup". Founders and/or investors make exit(s) or continue with the company.

Talent



Organization


# Proposed Solution

- Labelling startup events with Startup Development Phases
  - Manual vs Automatic




# Sample Event Listing Detail - Without Labelling

 Startup Events   



**Business Model Canvas Workshop**  
@ Event location, by Organiser Name  
Sat, Jun 6th | Time: 04:30pm [Register](#)






**Business Model Canvas Workshop**  
@ Event location, by Organiser Name  
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# Sample Event Listing Detail - With Automated Labelling


 Startup Events   



**06 JUN**  **Business Model Canvas Workshop**  
@ Event location, by Organiser Name  
Sat, Jun 6th | Time: 04:30pm [Register](#)

-2 -1 0 1 2 3



**06 JUN**  **Business Model Canvas Workshop**  
@ Event location, by Organiser Name  
Sat, Jun 6th | Time: 04:30pm [Register](#)

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# Sample Event Listing Detail - With Automated Labelling

Startup Events

Keyword Location

**06 JUN** Party **Business Model Canvas Workshop**  
@ Event location, by Organiser Name  
Sat, Jun 6th | Time: 04:30pm Register

-2 -1 0 1 2 3

**06 JUN** Party **Business Model Canvas Workshop**  
@ Event location, by Organiser Name  
Sat, Jun 6th | Time: 04:30pm Register

-2 -1 0 1 2 3

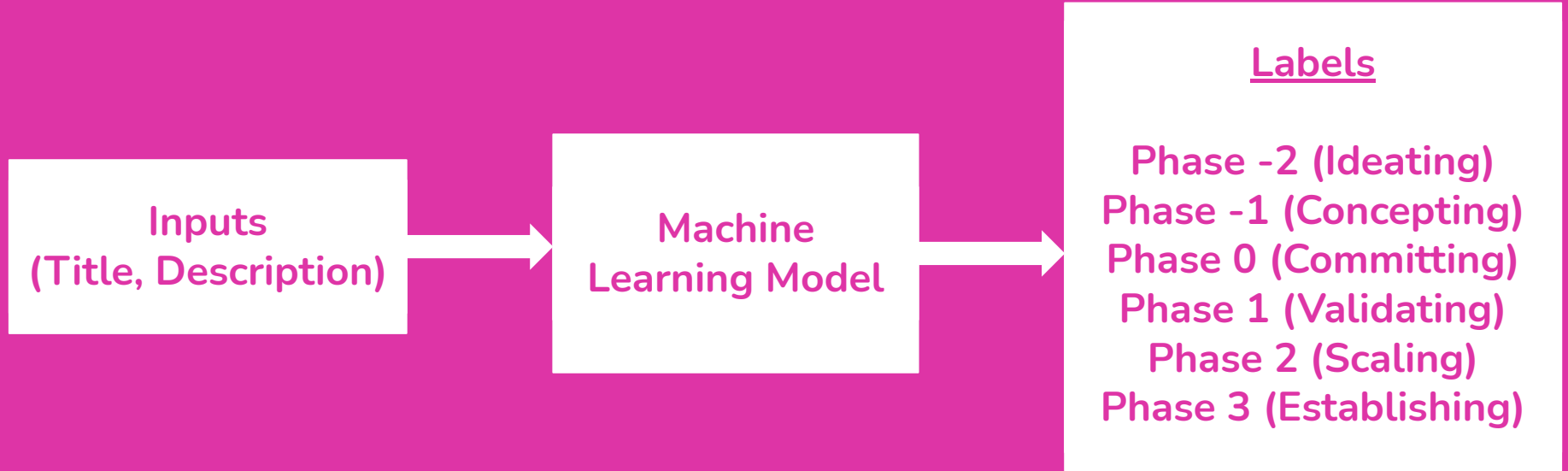
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# Behind the Scenes



# Machine Learning Model



# Machine Learning Algorithms

## K-NN (K-Nearest neighbor)

- Compare description of event with description of phase as defined by Startup Commons
- Require previously labeled data

## Deep Learning (RNN)

- Build a RNN to learn how to predict phase of event given a title and event description
- Uses past labels to train (huge amount of data)

# Next Steps

## Demo of KNN in action

- Improve on model
- Implement the deep learning model
- Compare performance and choose best model

# Live Demo

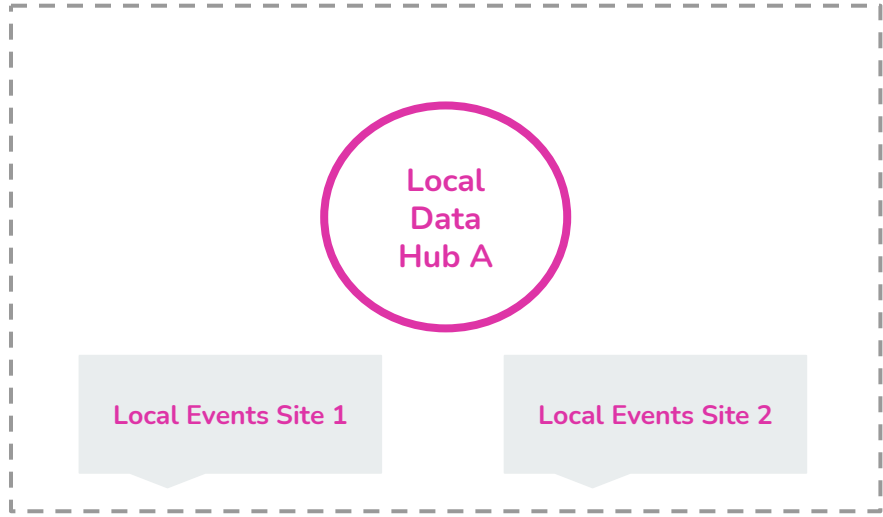
Following on we will be demonstrating the usage of an early machine learning model prototype

Use case in context

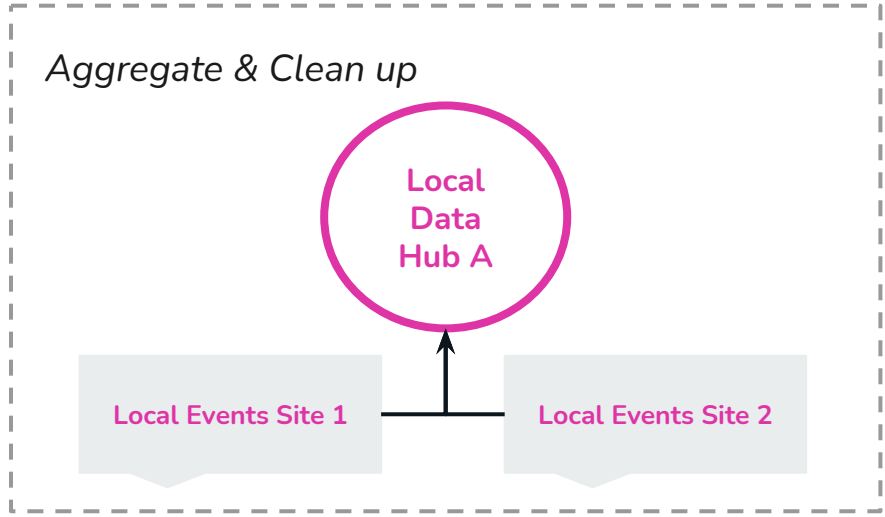
Local Events Site 1

Local Events Site 2

Ecosystem A

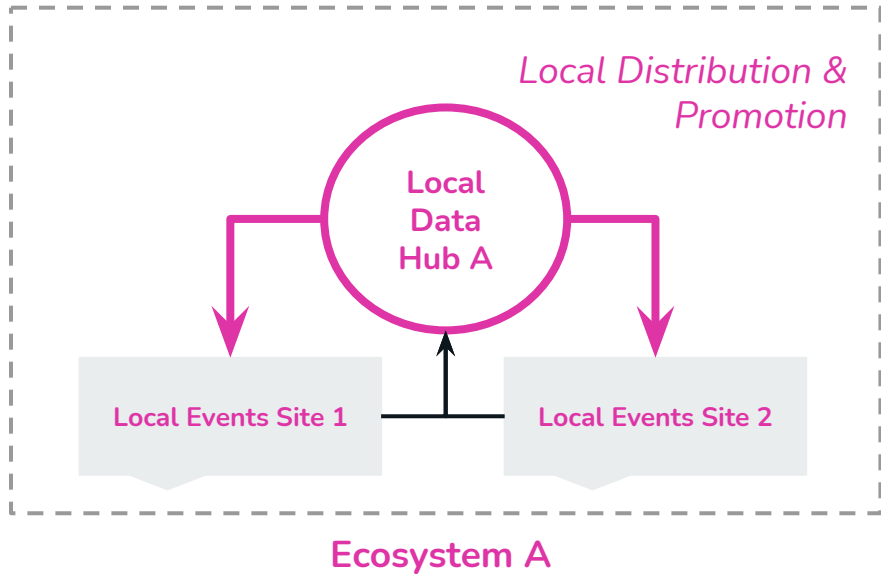


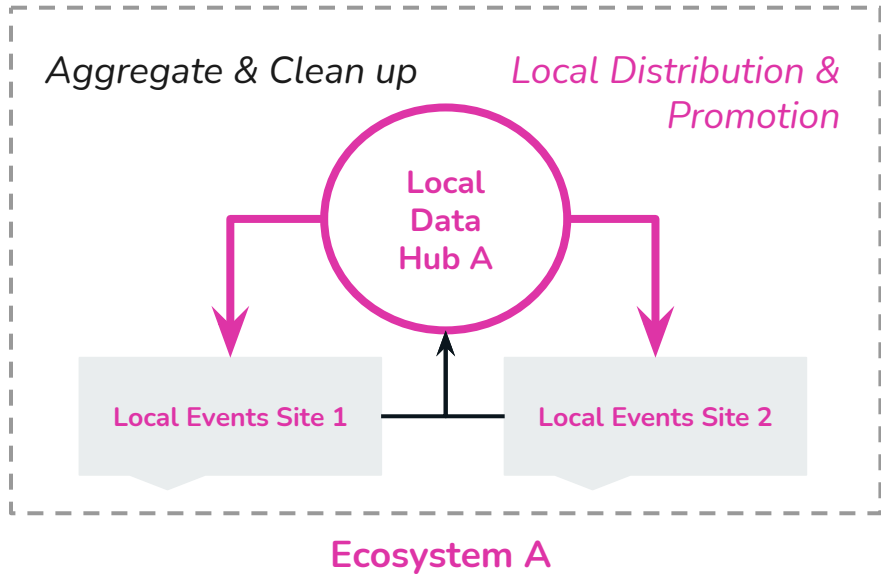
Ecosystem A

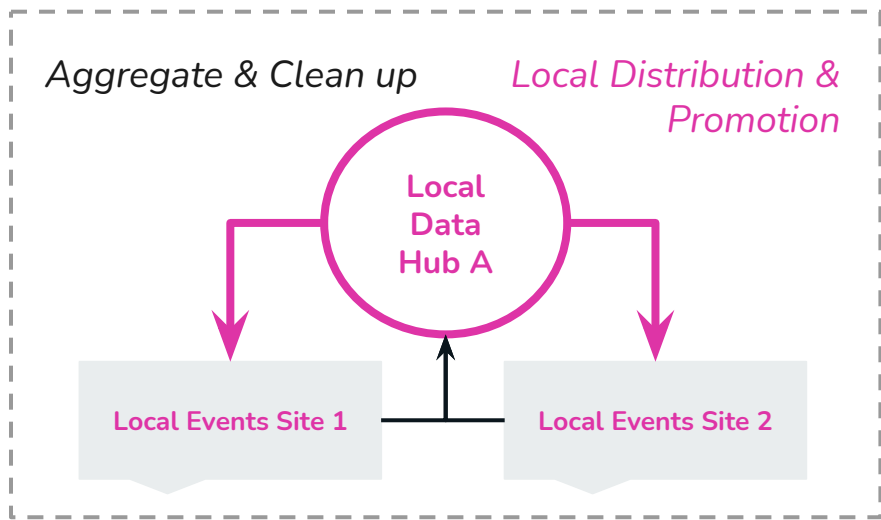


**Ecosystem A**





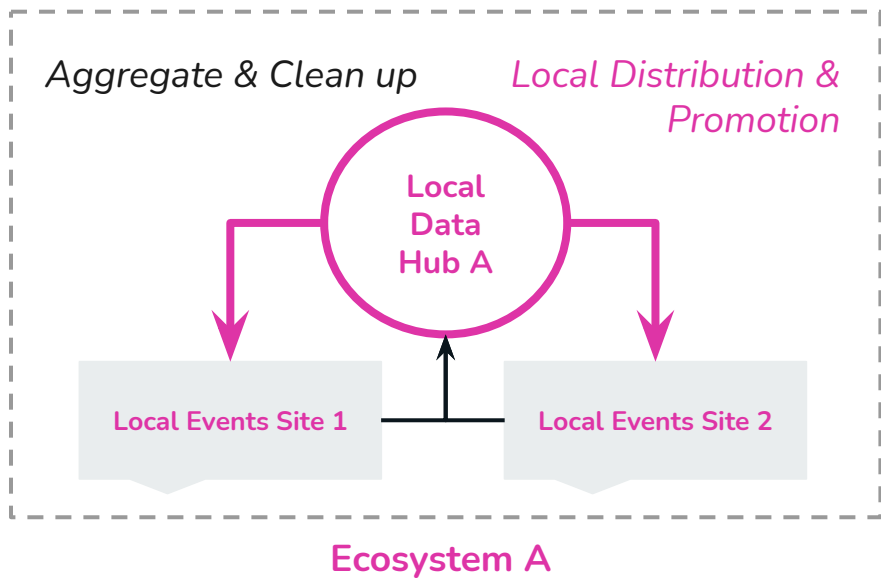




**Ecosystem A**



**Ecosystem B**

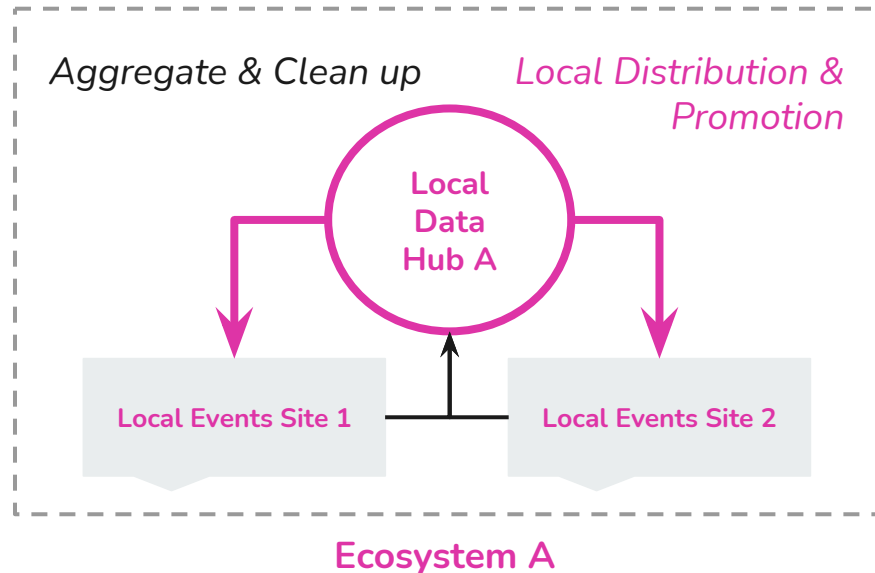


Ecosystem B



Ecosystem X

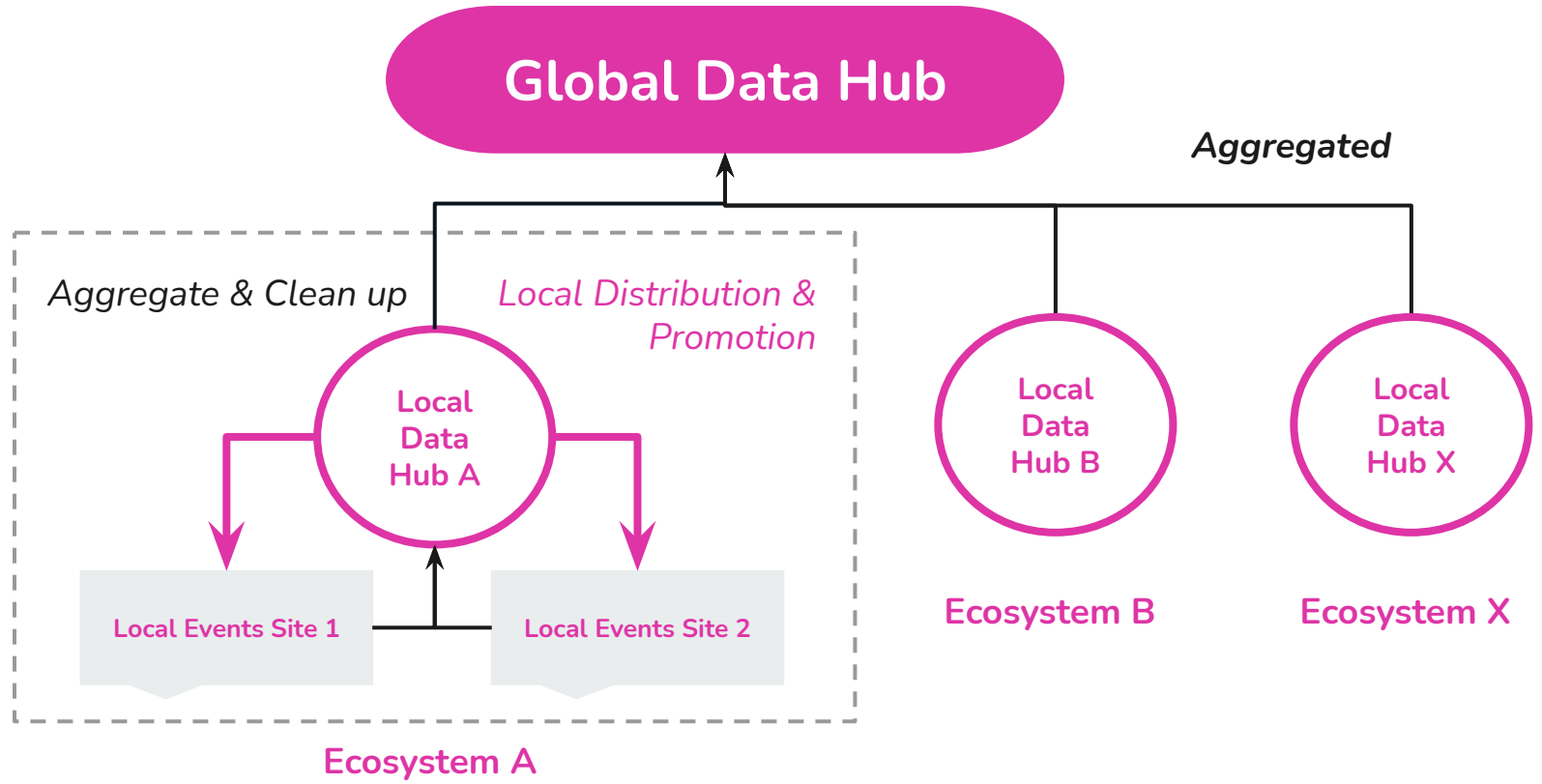
# Global Data Hub



Ecosystem B

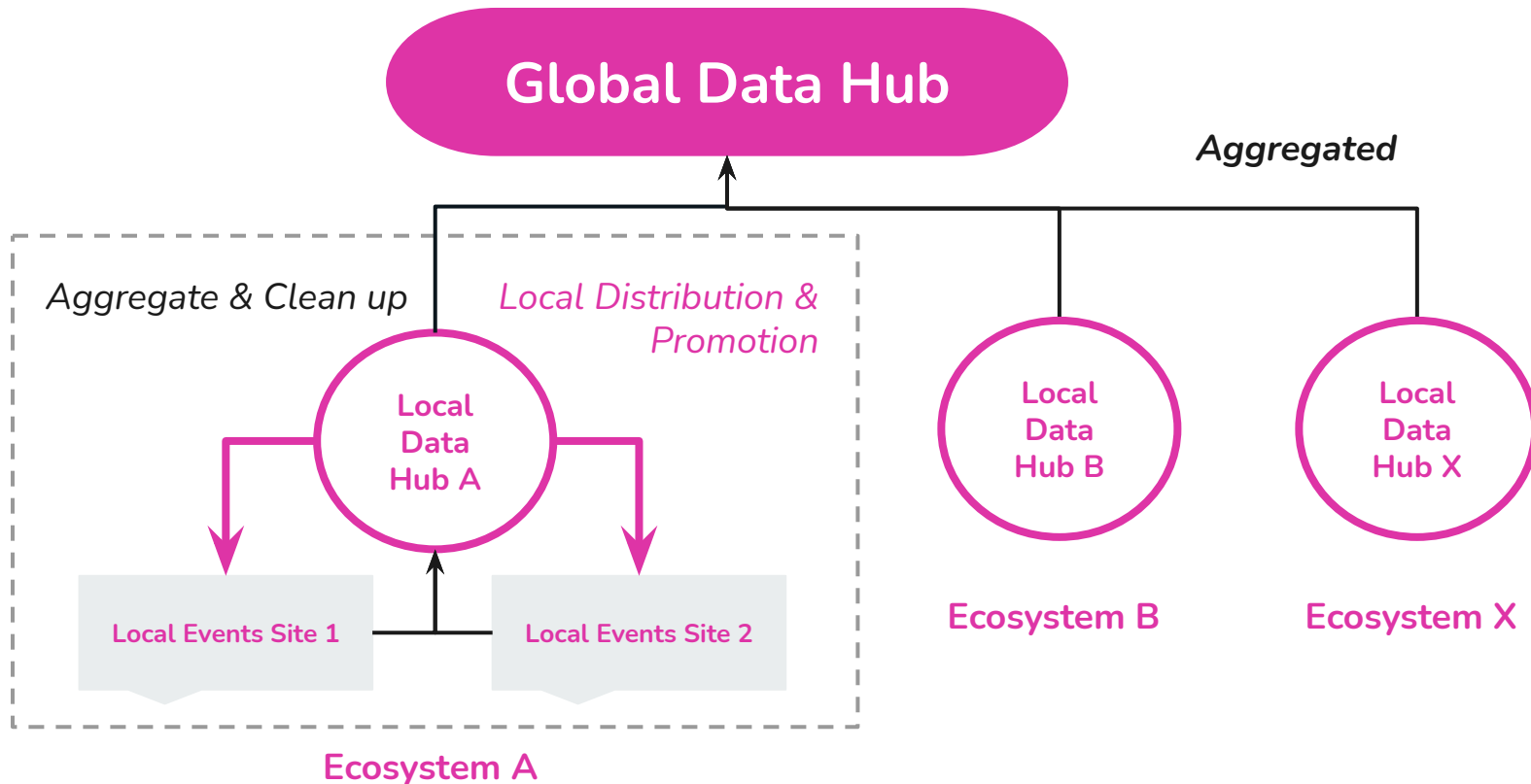


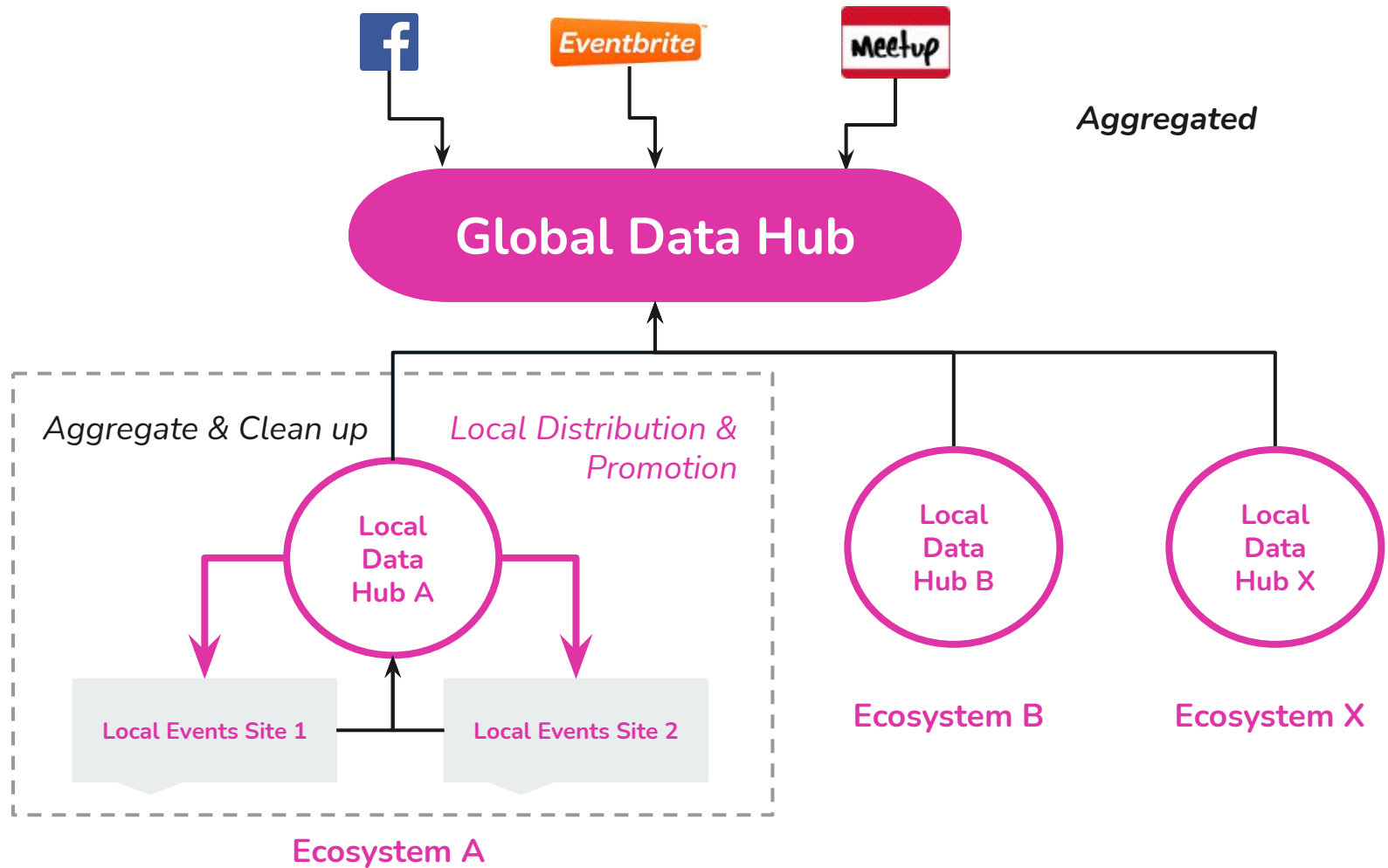
Ecosystem X



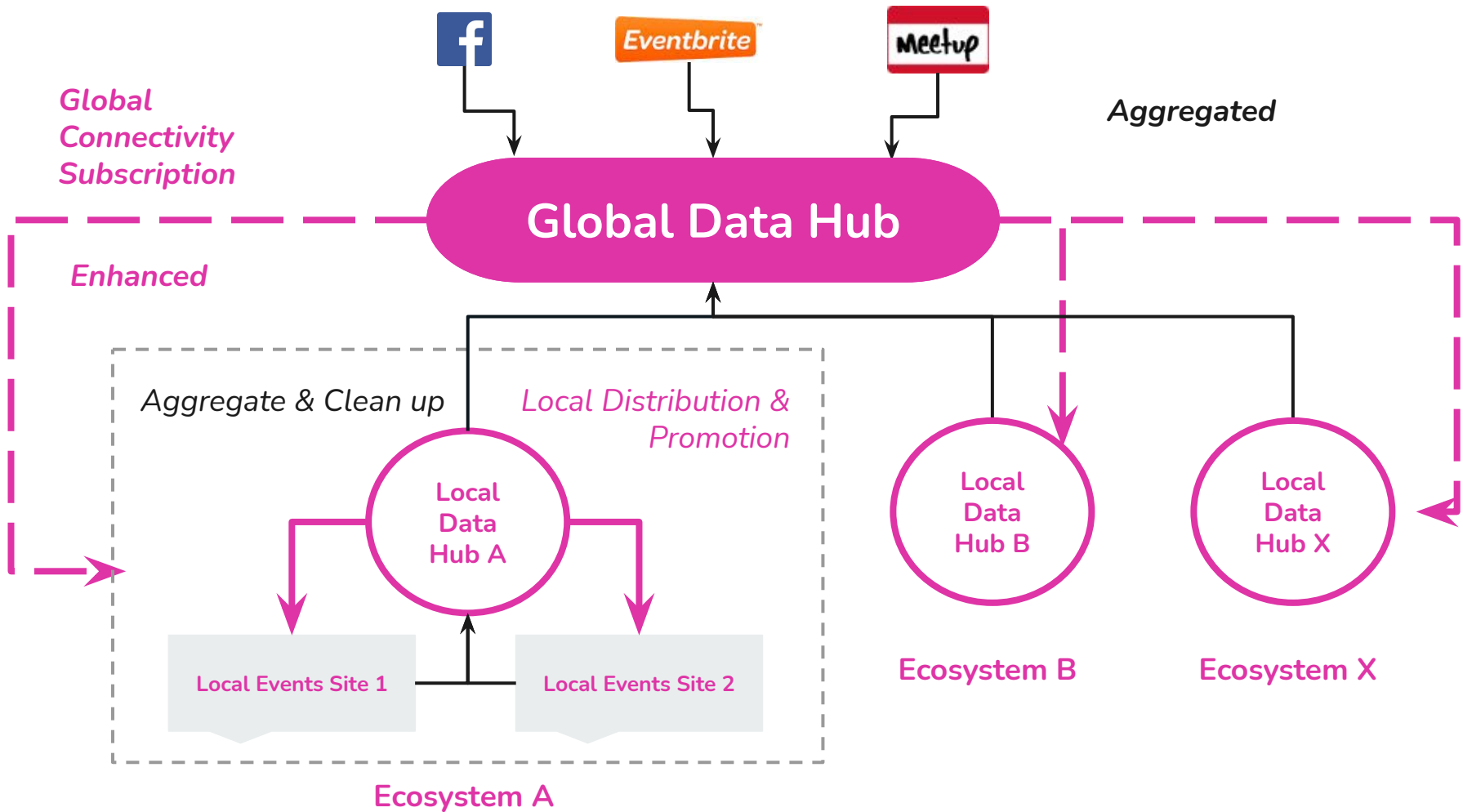


# Global Data Hub









Next Machine Learning  
use cases on the global roadmap

**Co-Founders Matching**

**Building ecosystem  
interoperability,  
one use case at a time!**

# Ecosystem use cases

- Aggregating and distributing startup events
- Aggregating and distributing startup jobs
- Matching co-founders
- Matching startups-team members
- Matching startups-advisors
- Matching startups-investors
- Matching startups-corporates
- Matching IPRs-startups
- Making startup profile data portable
- Ecosystem mapping
- Automating startups-corporates matching
- Matching startups-events
- Ecosystem KPIs dashboard
- Connecting innovation entrepreneurship eLearning module with business plan application
- Inventory of market opportunities

*How to contribute and start*

---

**Taking  
action.**

---

A person wearing a white long-sleeved shirt is holding a large stack of grey folders or binders. The folders are stacked vertically, and the person's hands are visible, gripping the edges of the folders. The background is a plain, light color. The text "Share your startup events data" is overlaid in the center of the image in a bold, magenta font.

**Share your startup events data**



# Implementation Project With Digiole

- 1** Data Model
- 2** Ecosystem Data Hub Setup
- 3** Ramp Up
- 4** Handover

## Ecosystem Data Model

# FREE FOREVER

For ecosystem builders working on building common language

[Get Started](#)

- Unlimited use cases data modeling
- One use case per ecosystem, per month

## Data Hub Deployment

# 15 000 EUR

For ecosystems building an ecosystem digitalisation pilot

[Get Started](#)

- Unlimited use cases data modeling
- Data hub set up
- Development roadmap set up, including Product Management tools & Documentation
- 1 Interoperability Use Case
- 3 month Community support
- + Third-party hosting fees



# Hosting Fees



## Community

# FREE FOREVER

Per month

Perfect for prototype or small-scale projects that require a robust Content API

- Fully Hosted and GraphQL native Headless CMS
- Robust GraphQL Content APIs for read and write access
- Built in Digital Asset Management with Assets Transformation API
- Work together with up to 5 users and 2 locales per project
- Automate custom logic with granular webhooks
- Up to 1 million monthly API calls and 100GB monthly asset traffic (hard limit)

## Pro & Scale

# 299-799 EUR

Per month

Perfect for growing ecosystem teams scaling their applications and products

- Bring your team to build projects, with up to 25 users and 5 roles
- Complete access to our GraphQL Management API and SDK
- Ideal for growing applications that don't require an SLA
- Manage content without risks, with content versioning and periodic backups
- Improve internal workflows with multiple environments and custom content stages
- Scale as you go without enforced limits on API operations and asset traffic (+overage)

## Ecosystem

# CUSTOM

Per month

Custom plans to build market leading applications, tailored to your ecosystem requirements

- Federate content by unifying services and extend your API to external sources
- Dedicated infrastructures, global CDN coverage, and 24/7 monitoring
- Tailored custom limits on users, locales, entries, API operations, and more
- Security & governance controls, fine-grained permissions, audit logs, and SSO
- Custom uptime and support SLAs for running mission critical content operations
- Professional support in onboarding, architecture, training, and success

Q&A

# ecosystemOS

[www.ecosystemos.com](http://www.ecosystemos.com)

[oscar@digiole.com](mailto:oscar@digiole.com)



digiole