



# ABEJA Inc AWS Cloud Roadshow 2017

v1

Shane Cousins / Takuro Shogami





# Today!

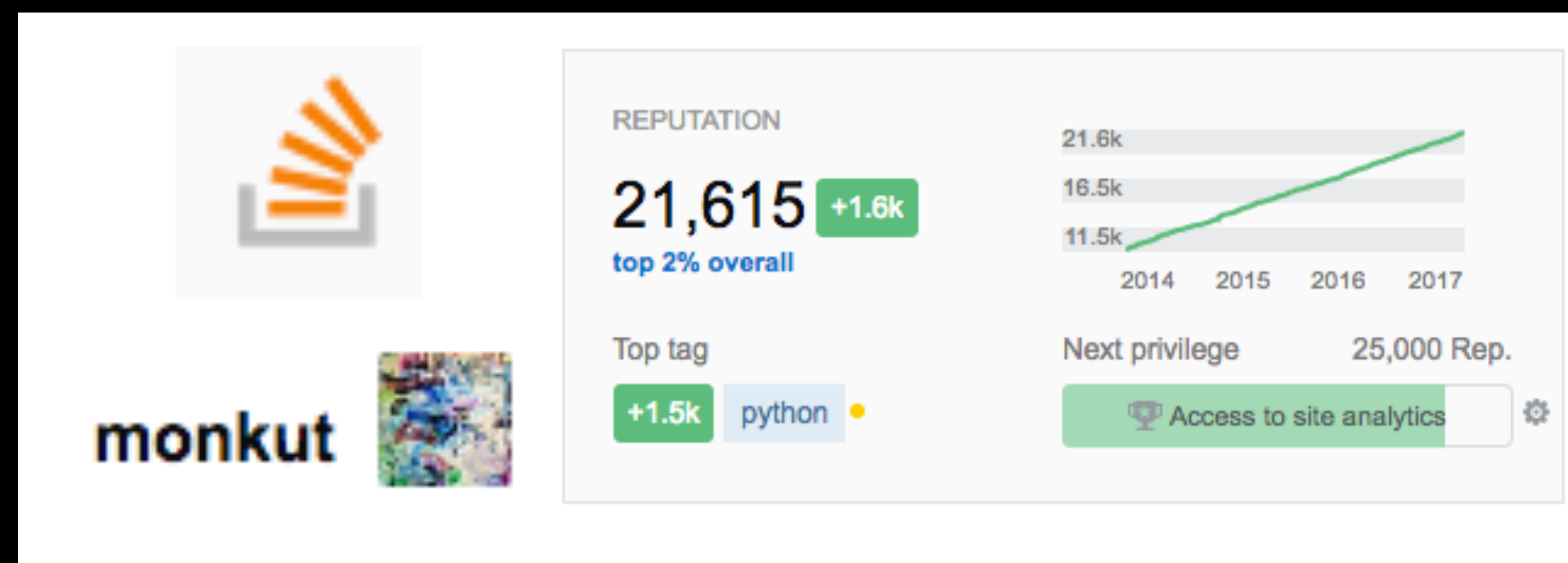
- What is ABEJA?
- What is ABEJA Platform?
- ABEJA Platform & AWS
- ABEJA Platform Use-cases
- ABEJA Partnership Program



# Shane Cousins

Engineer in ABEJA

- 16+ years Living in Japan
- 10+ years leading Development teams
- Experienced the transition from waterfall to agile
- Pythonista (since 2.3)
- Long time Stackoverflow user



# Takuro Shogami

Sales & Business Development in ABEJA

- Many experience
  - Merchandise & Planing Event
  - Strategic Consulting Farm
  - Business Development of payment system
  - Planning in Casino industry
  - Corporate Management in Medical & Healthcare industry
- AI Business Development over 2 years in ABEJA



A B E J A



Corporate Name	ABEJA, Inc.
Established	September 10, 2012
Location	Tanakayama Building 10F 4-1-20, Toranomom, Minato-ku, Tokyo
Capital (Including capital reserves)	¥ 1,400,268,000
Corporate Vision	Innovation that changes the world
Corporate Mission	<b>Revolutionize industry through technology</b>



- Archetype Ventures, Inc.
- Innovation Network Corporation of Japan
- Inspire Corporation
- Inspire PNB Partners Corporation
- ITOCHU Corporation
- Mitsubishi UFJ Capital Company Limited
- Mizuho Capital Company Limited
- NTT Docomo Ventures, Inc.
- NVIDIA Corporation
- Sakura Internet, Inc.
- salesforce.com, Inc.
- Toshiba Tec Corporation







**ABEJA, Inc.**

**ABEJA Singapore, Pte. Ltd.**





Professor Emeritus  
The University of Tokyo  
Tosiyasu KUNII



Professor  
Hakodate Future University  
Hitoshi MATSUBARA



Professor  
Nagoya University  
Takami YASUDA



Professor  
Ochanomizu University  
Takayuki ITOH



Professor  
Chubu University  
Hironobu FUJIYOSHI



Professor  
Hokkaido University  
Hidenori KAWAMURA



Associate Professor  
Chubu University  
Takayoshi YAMASHITA



# ABEJA Business Lines



**ABEJA  
PLATFORM**

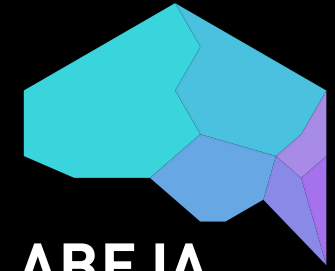
IoTデバイスやネットワーク等と連携し、大量データの取得・蓄積・学習・実行・フィードバックが可能な、AI、特にディープラーニングを活用したプラットフォームを提供



**ABEJA  
PLATFORM**  
for Retail

ABEJA Platformを活用した小売店舗向けに最適化されたサービス。データに基づいて店舗の課題を見つけ出し、店舗が取るべき施策を導き出すソリューションを提供





ABEJA  
PLATFORM  
for Retail

○○  
SaaS

○○  
SaaS

API on API

System

API

PaaS



IaaS



Processor



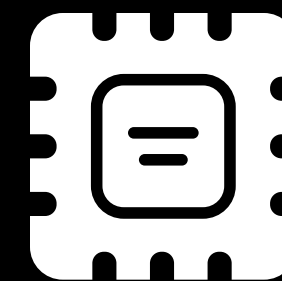
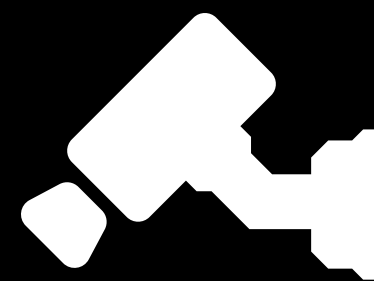
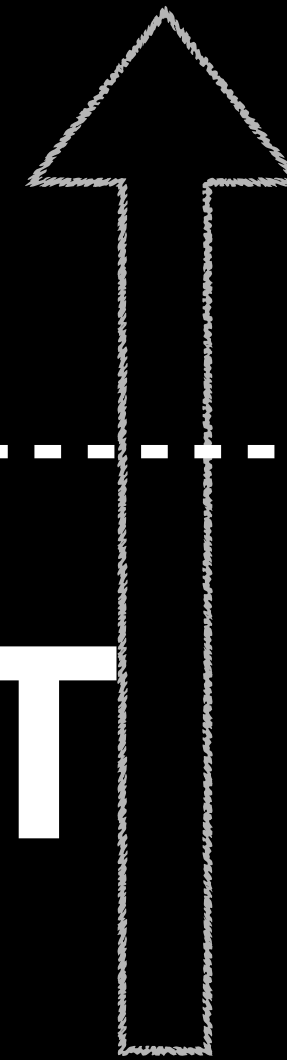




Cyber World

Physical World

Inbound IoT





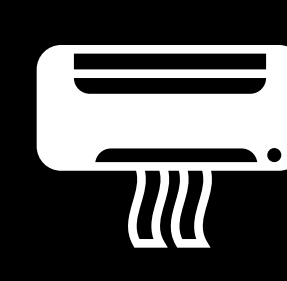
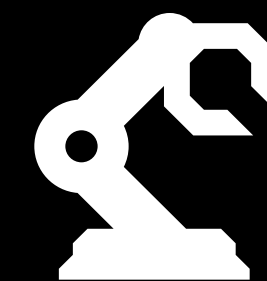
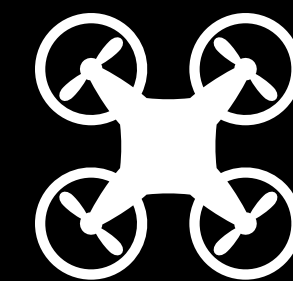
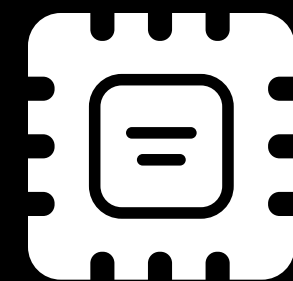
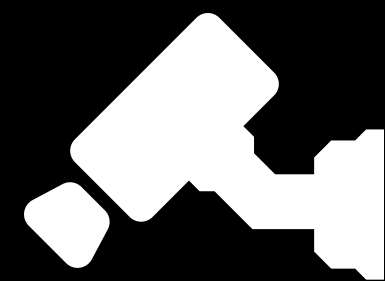


Cyber World

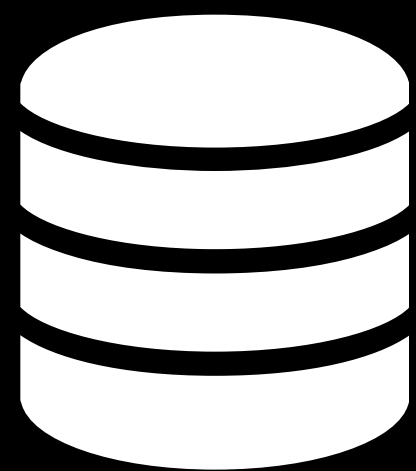
Physical World

Inbound IoT

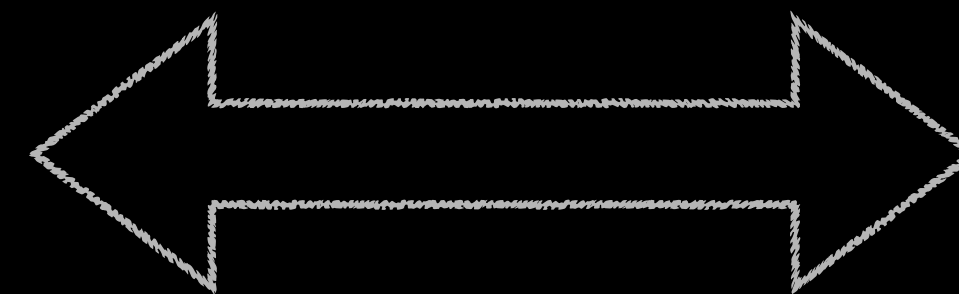
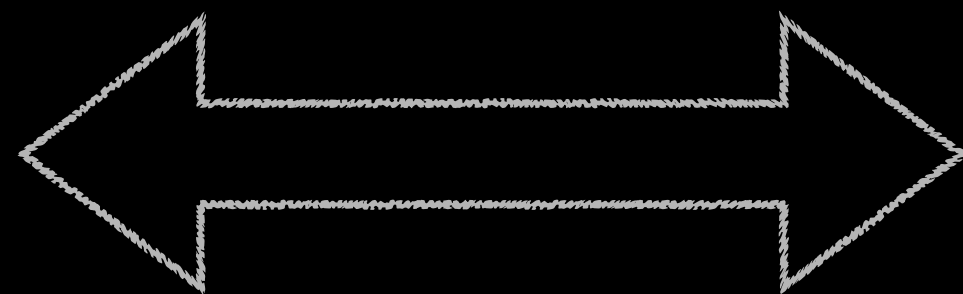
Outbound IoT







**Existing Data**

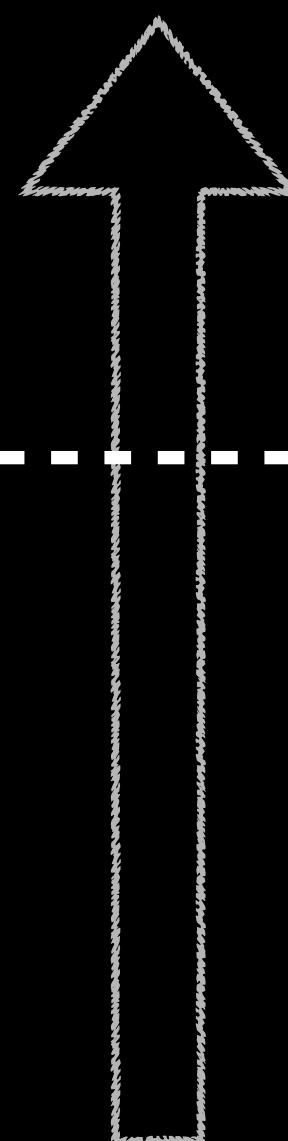


**Other PaaS**

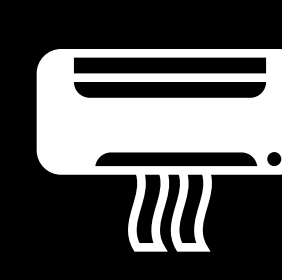
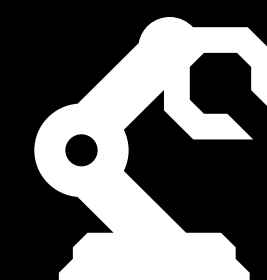
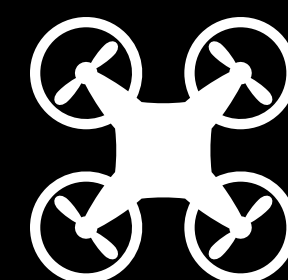
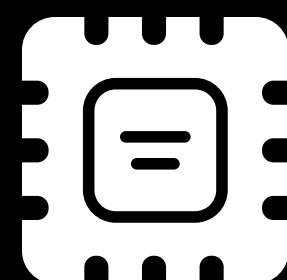
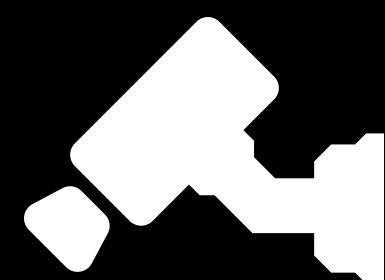
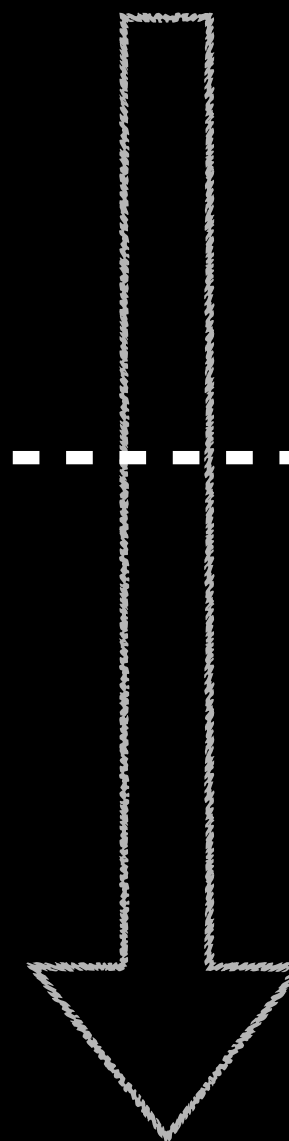
**Cyber World**

**Physical World**

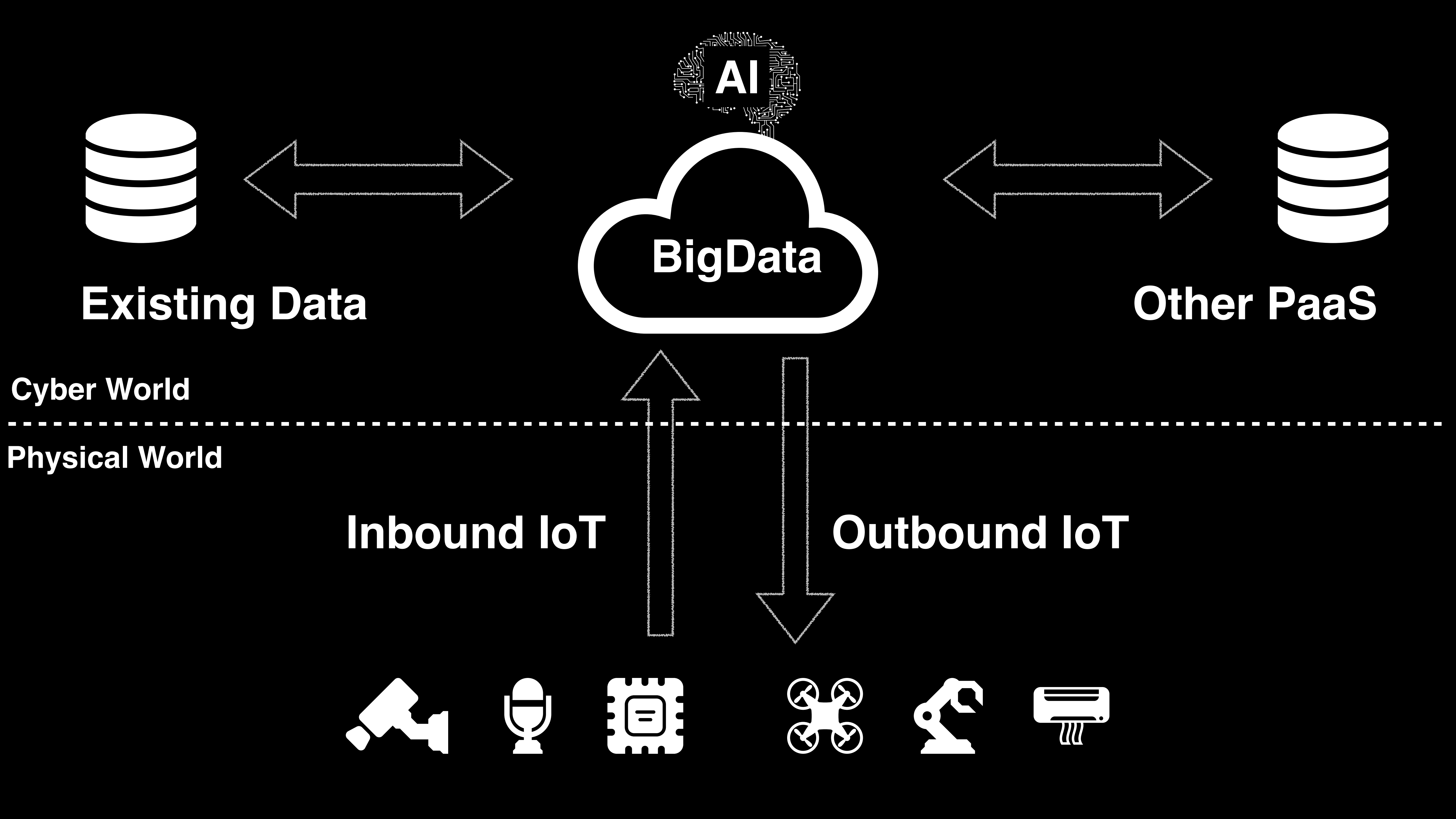
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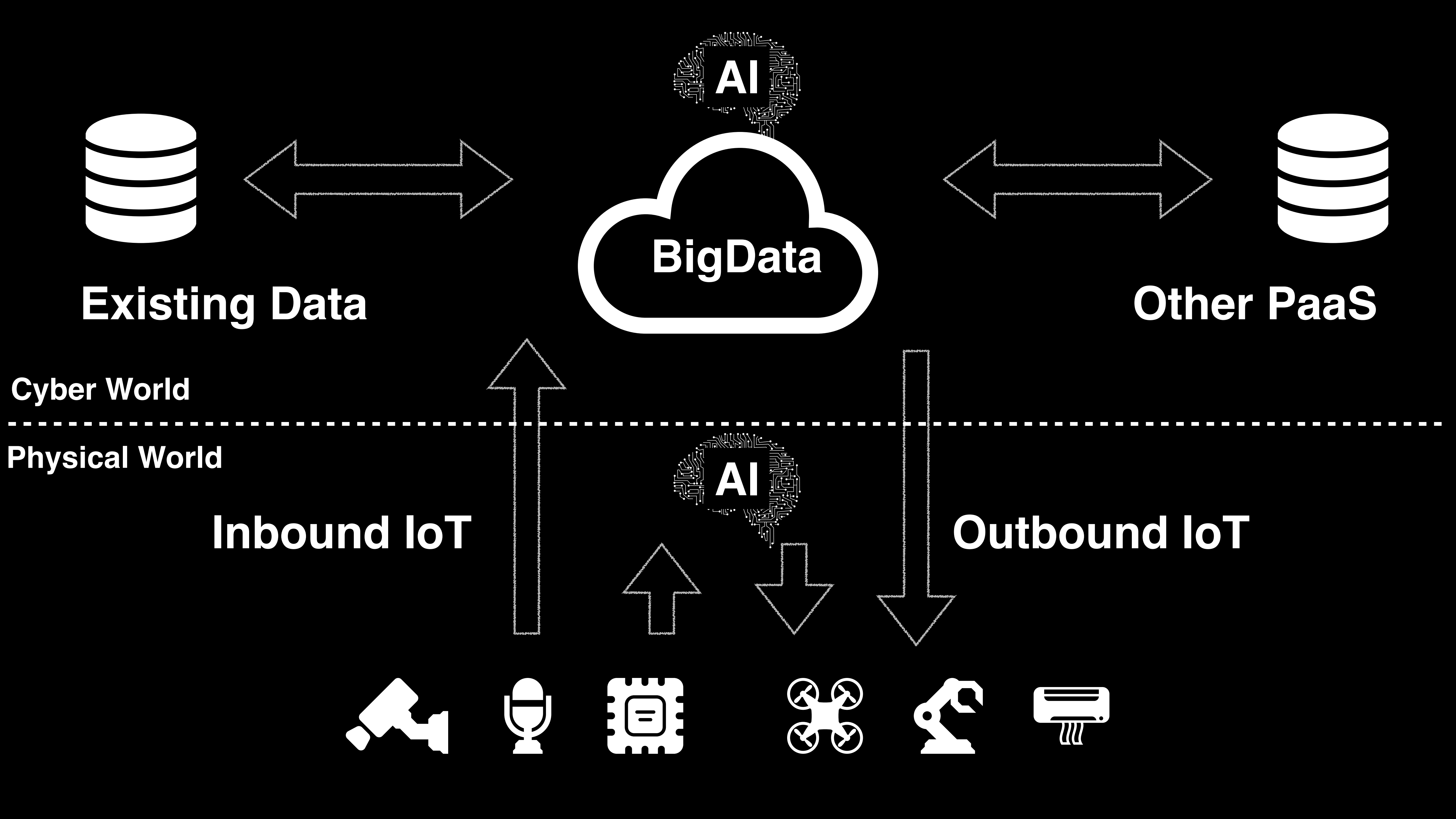


**Outbound IoT**

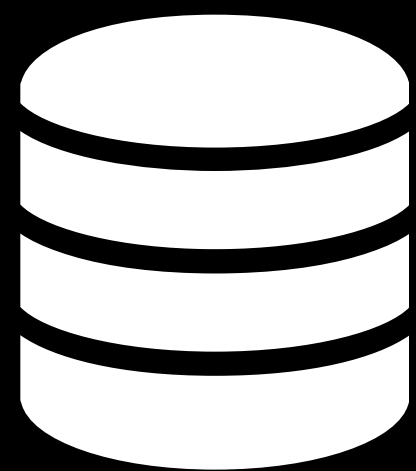




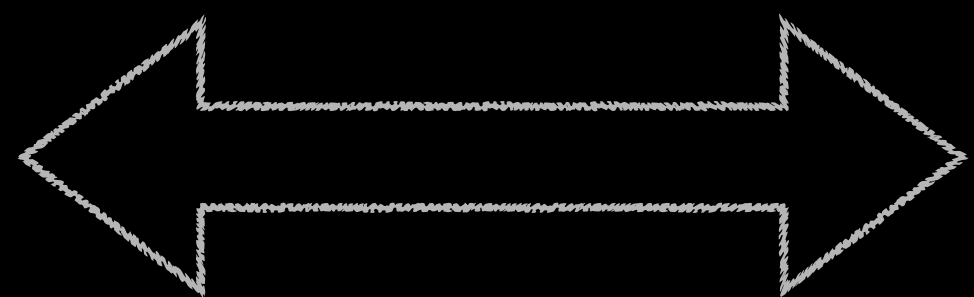




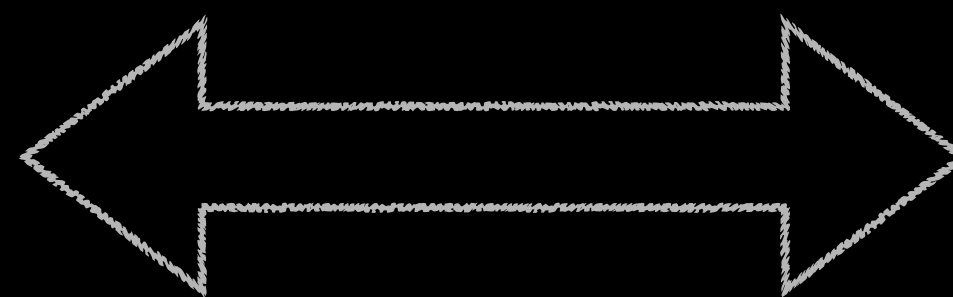




**Existing Data**



**ABEJA  
PLATFORM**

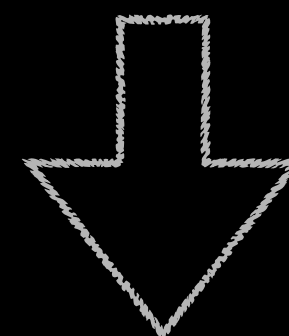
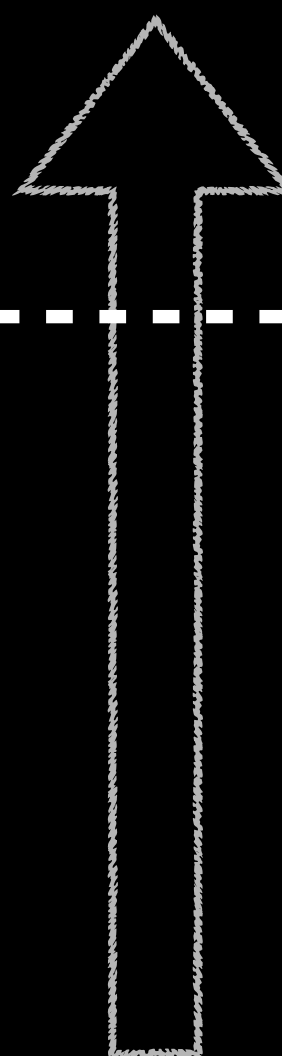


**Other PaaS**

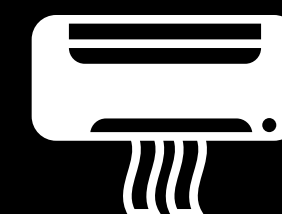
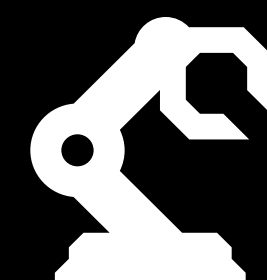
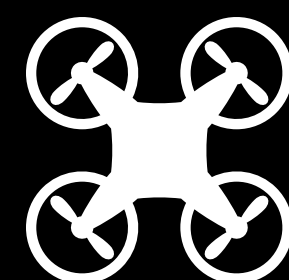
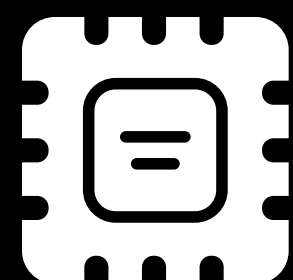
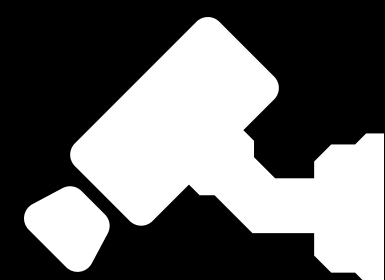
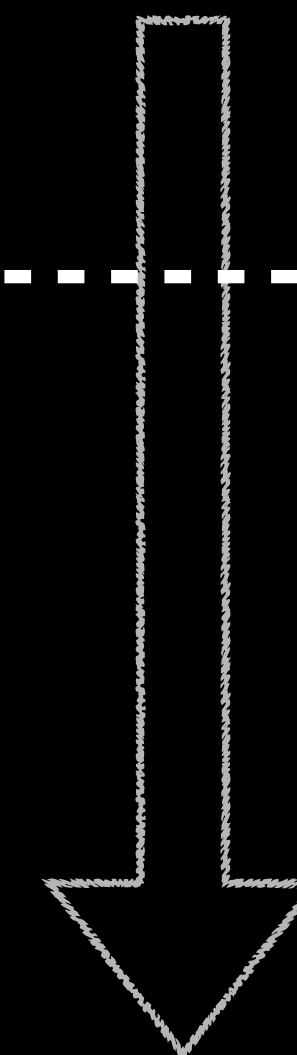
**Cyber World**

**Physical World**

**Inbound IoT**



**Outbound IoT**

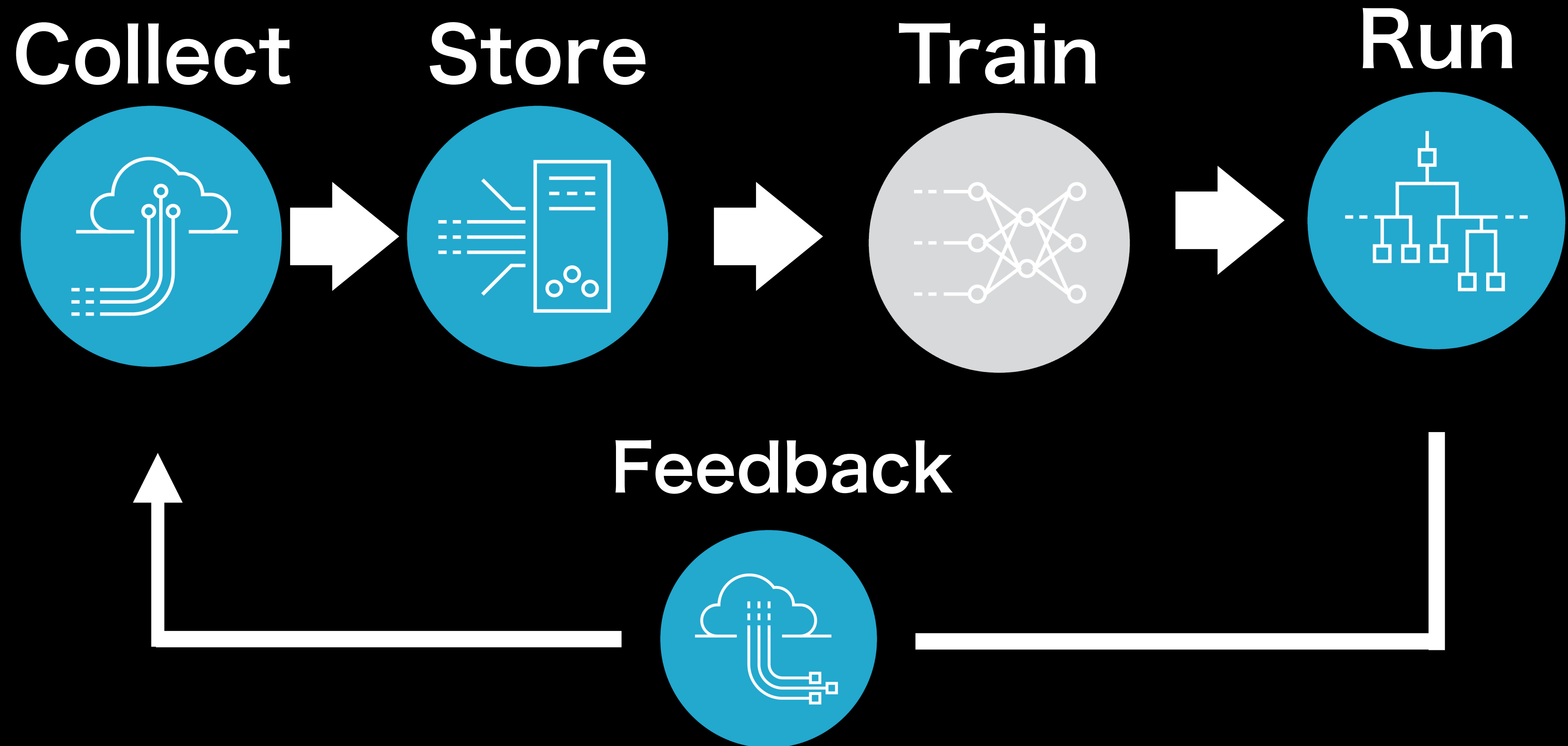




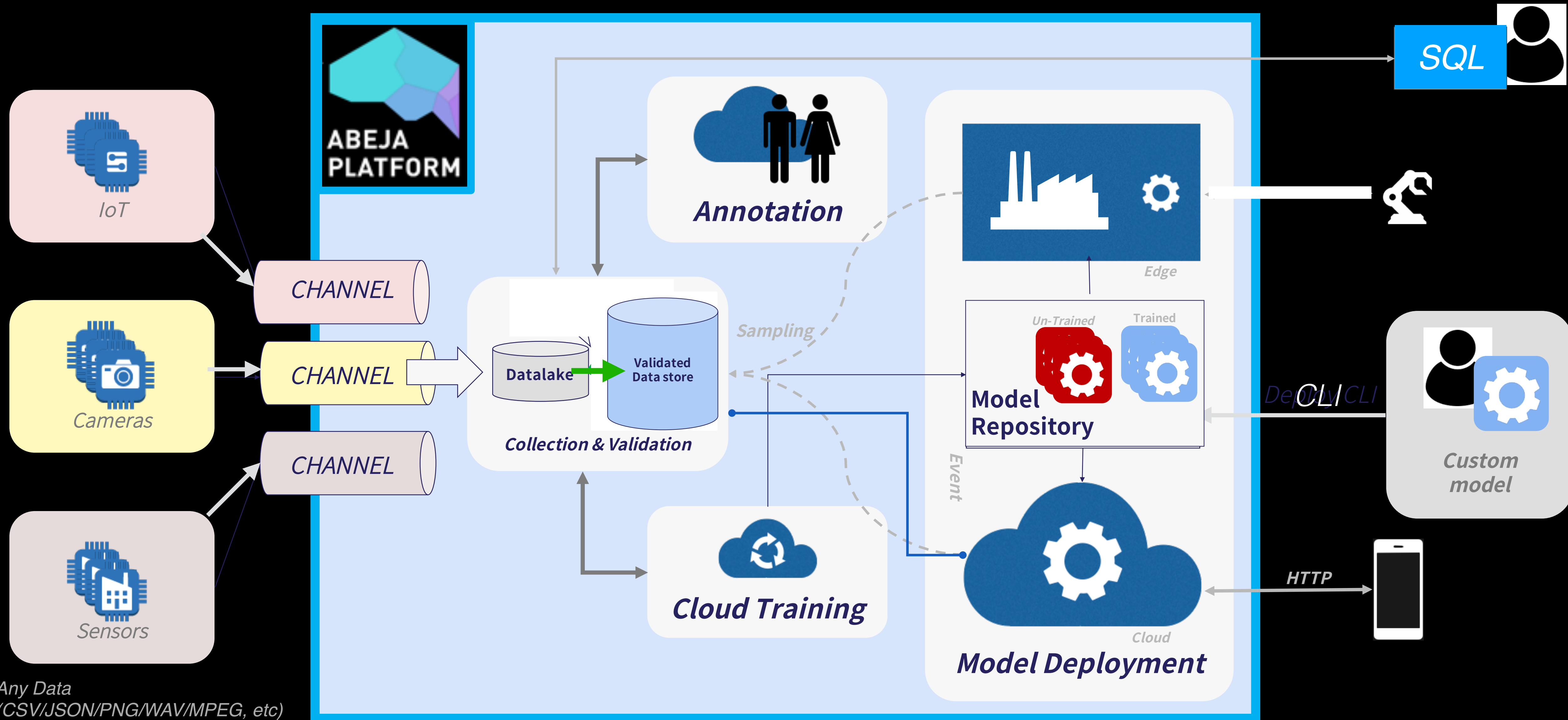
**ABEJA**  
**PLATFORM**



# ABEJA Platform Overview

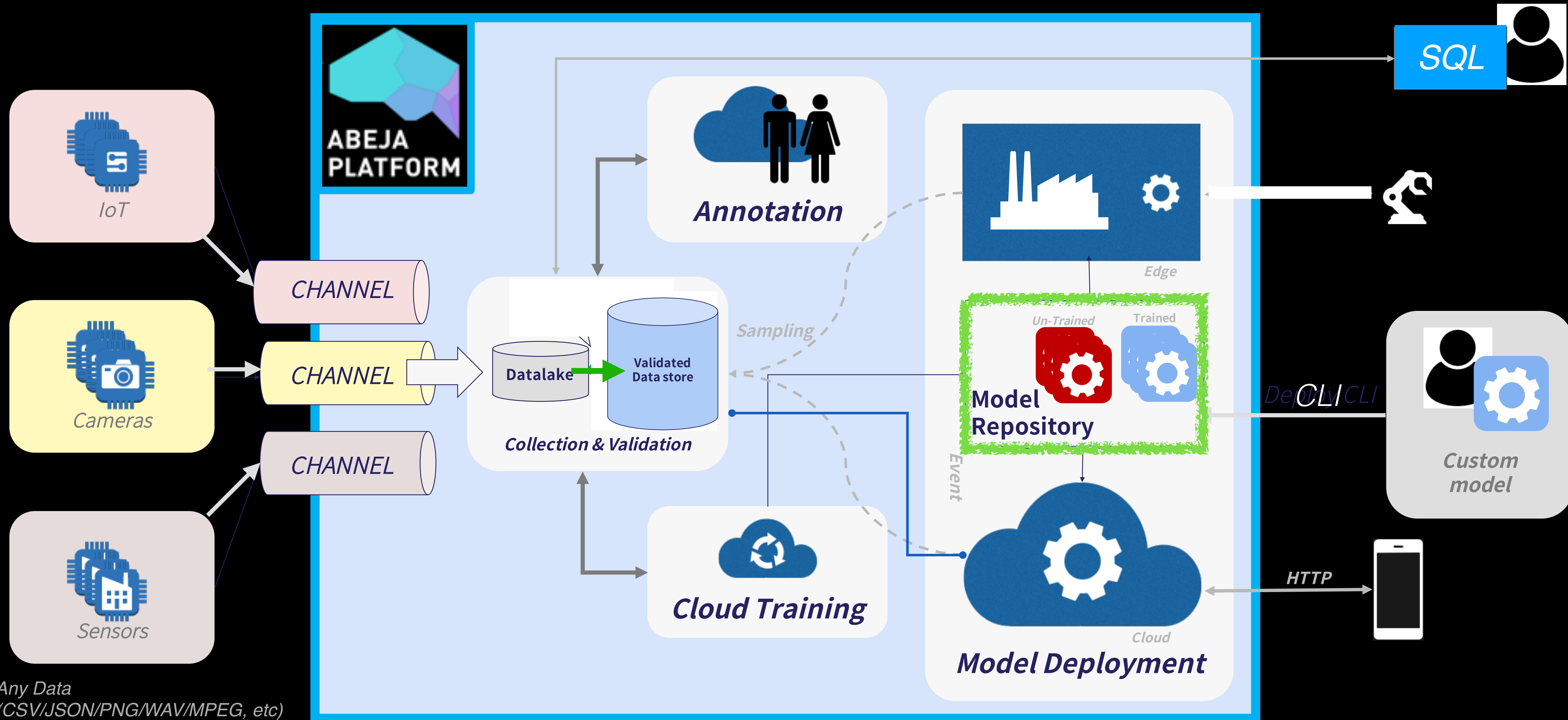


# ABEJA Platform Overview

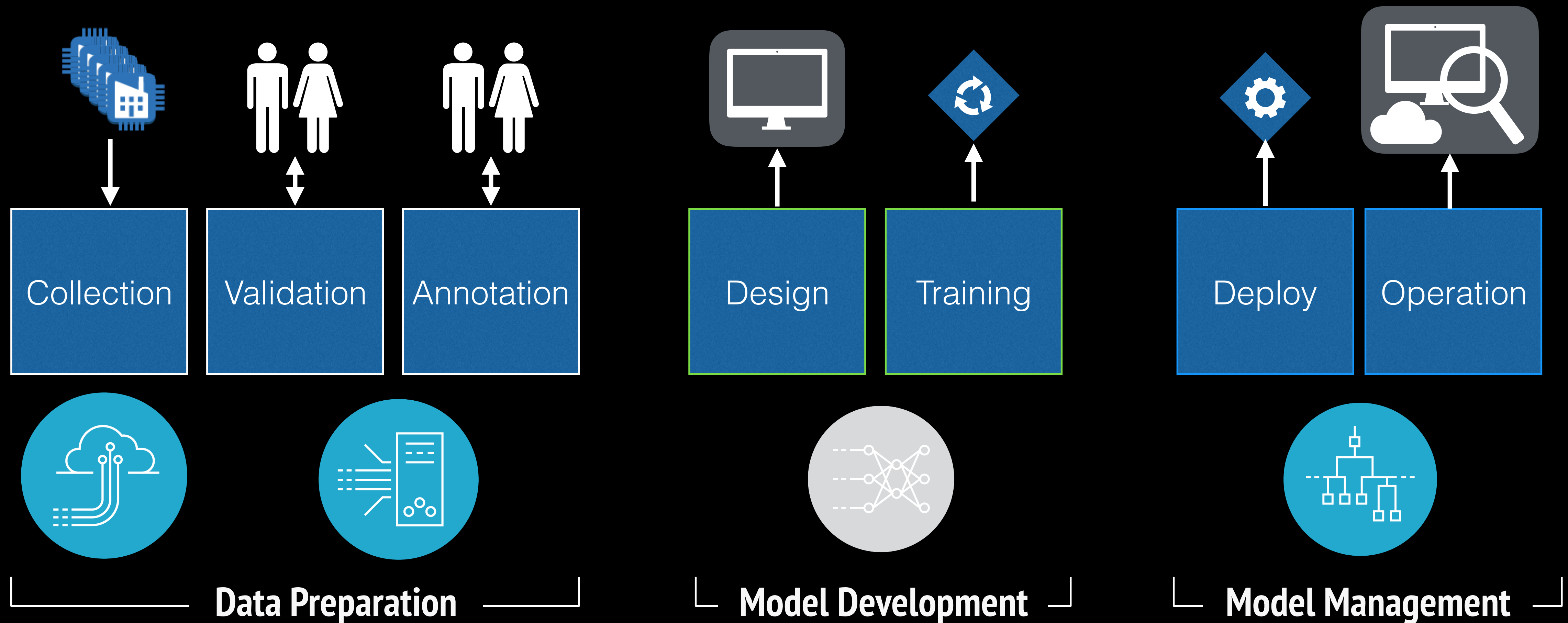




# ABEJA Platform Overview

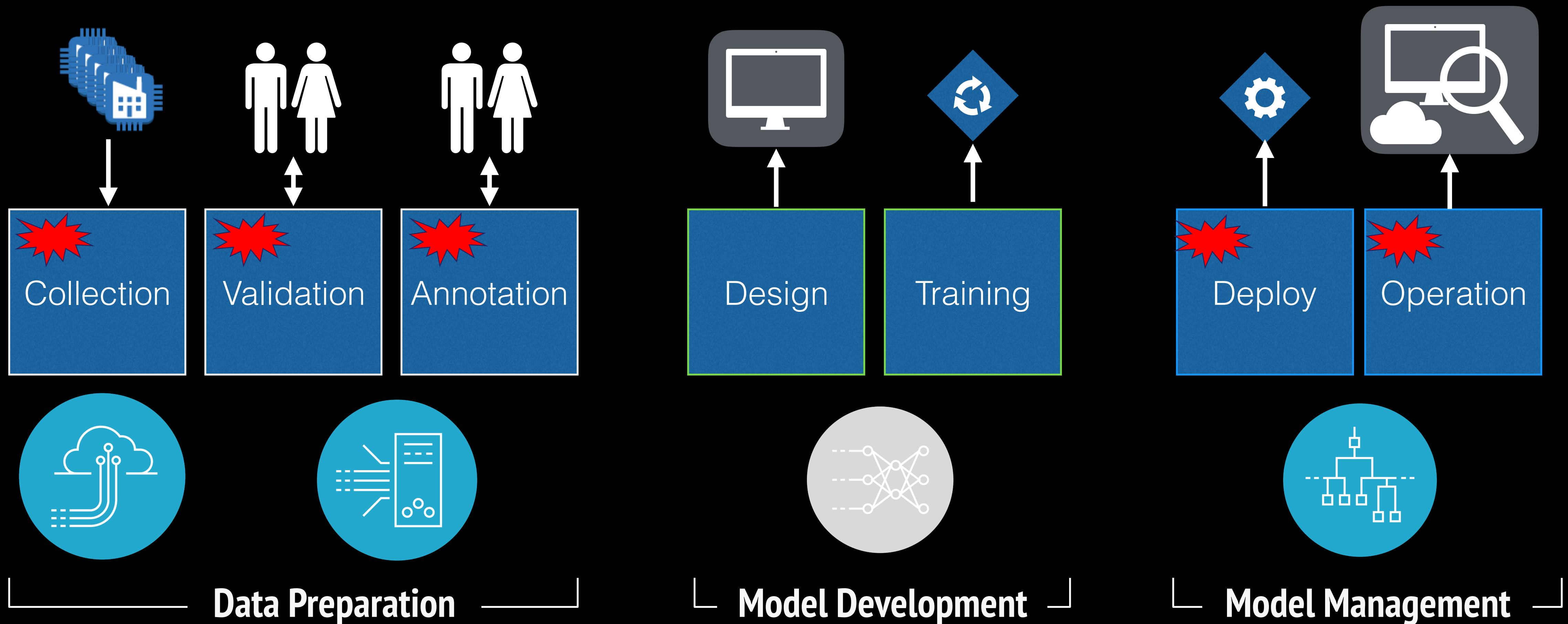


# Model Development Phases

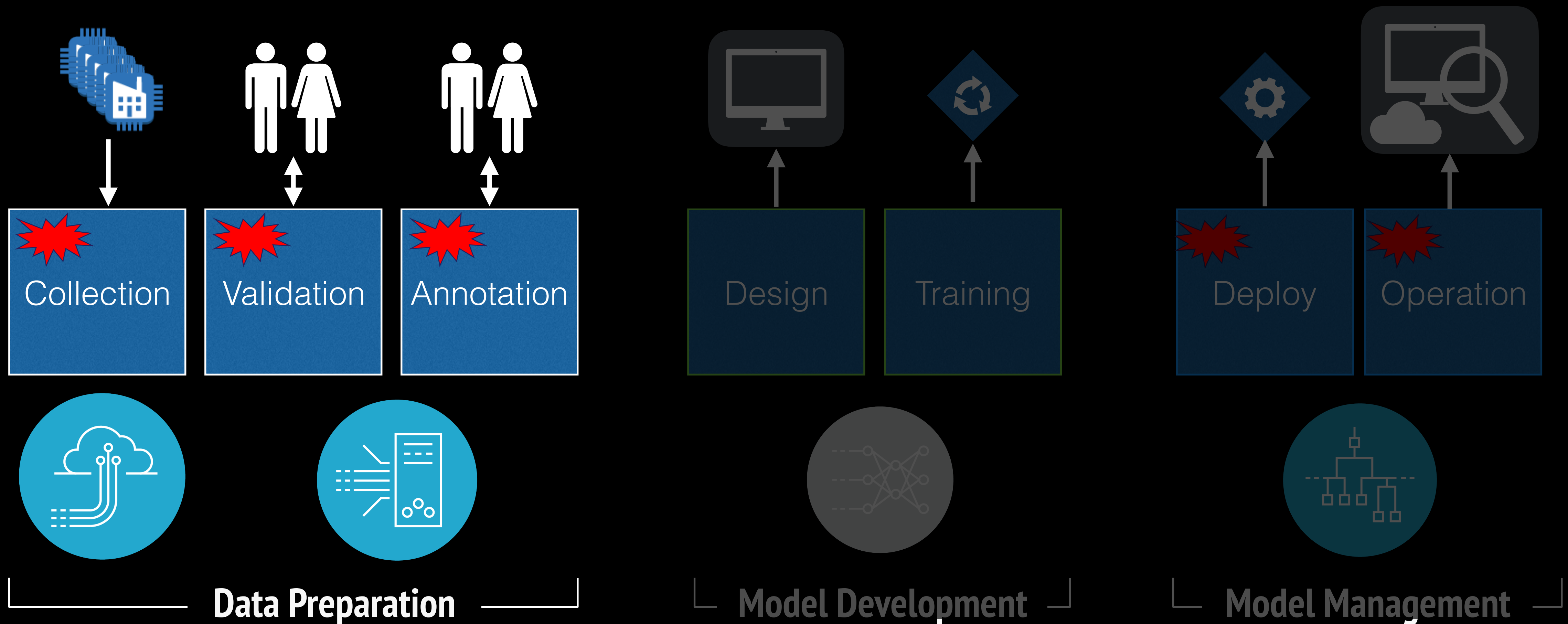




# Model Development Phases

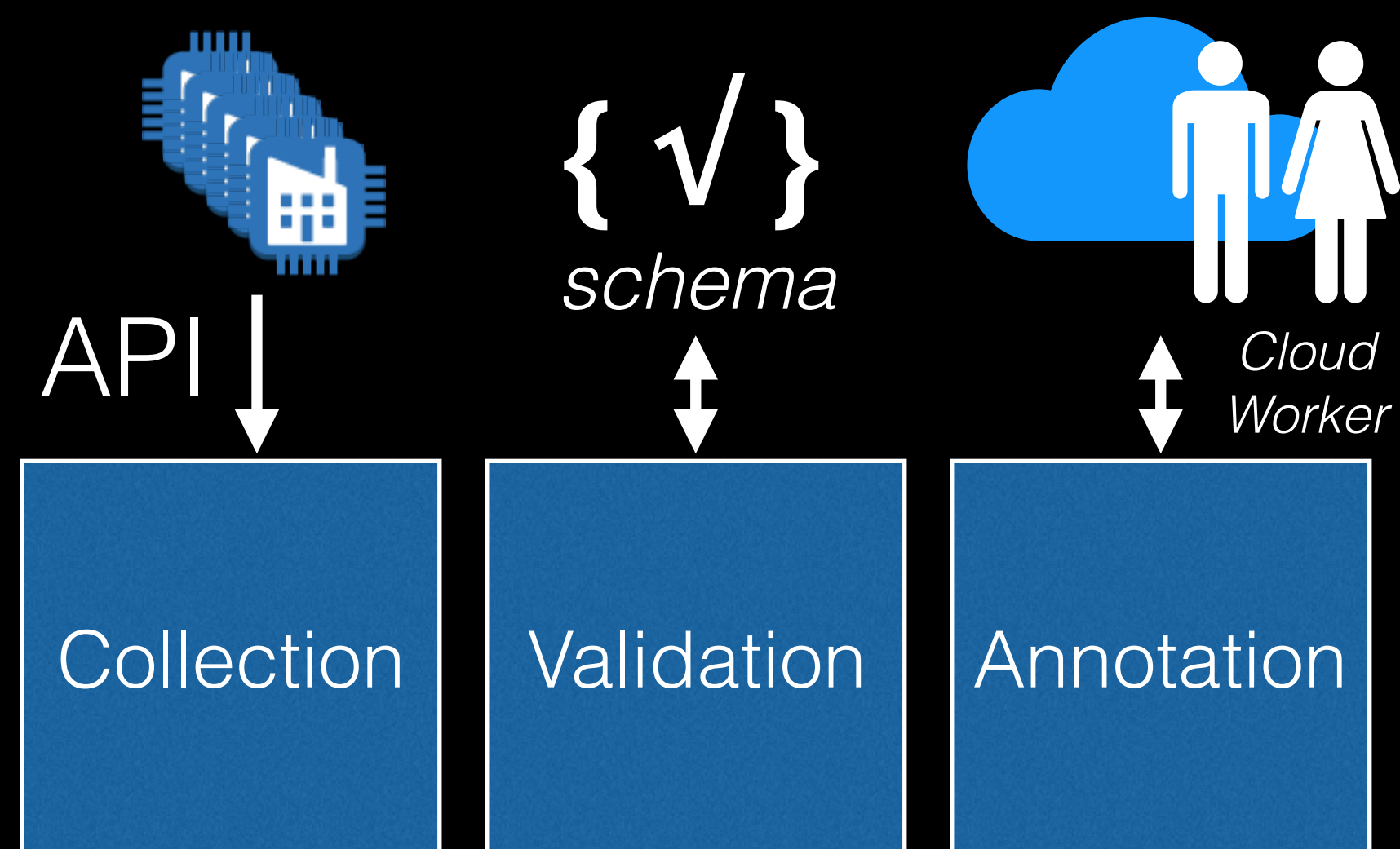


# Model Development Phases

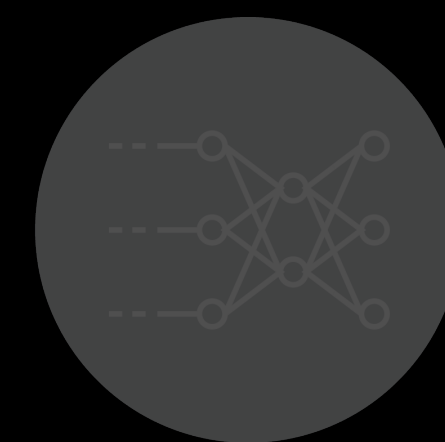
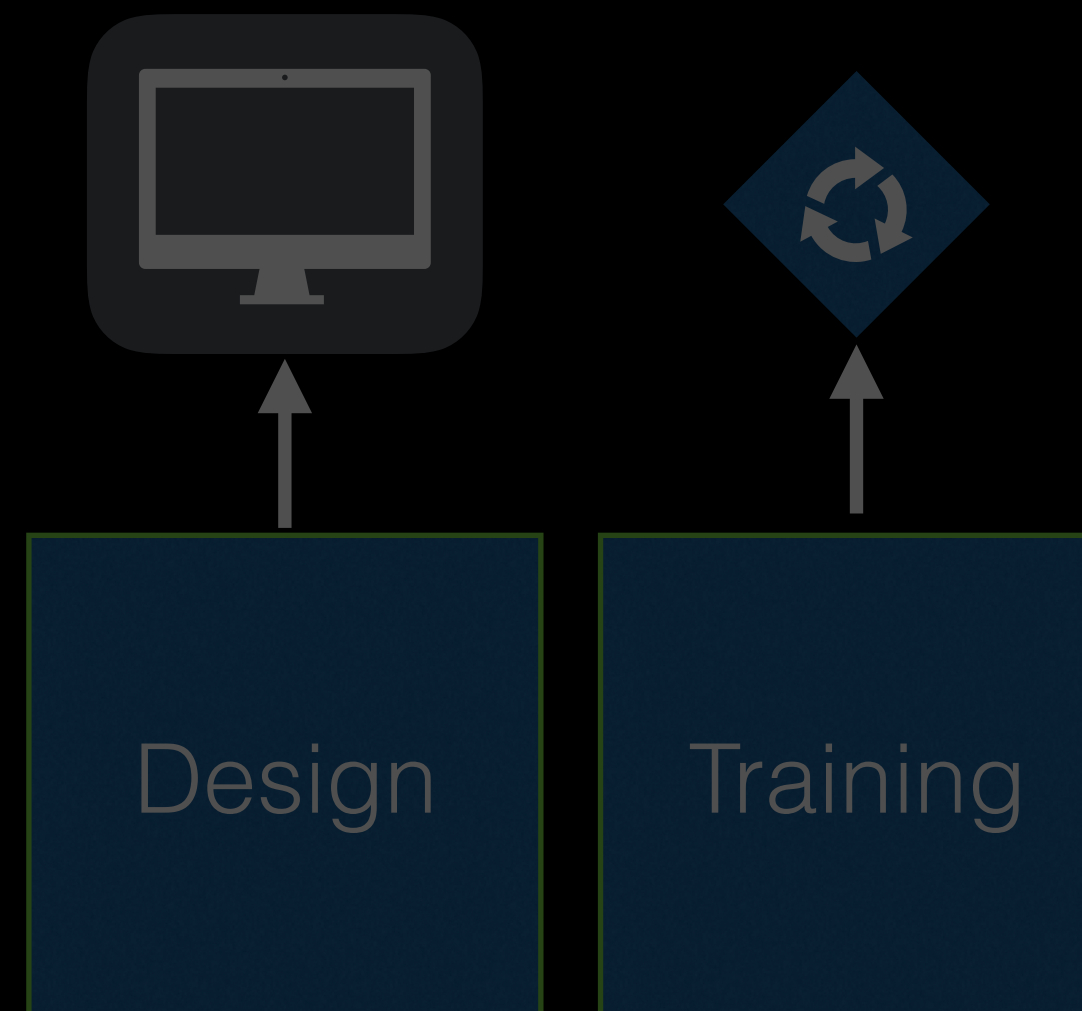




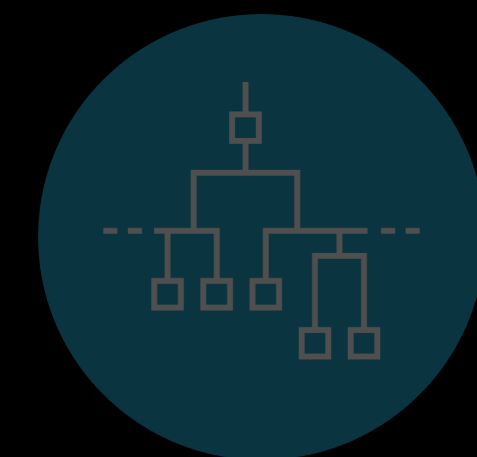
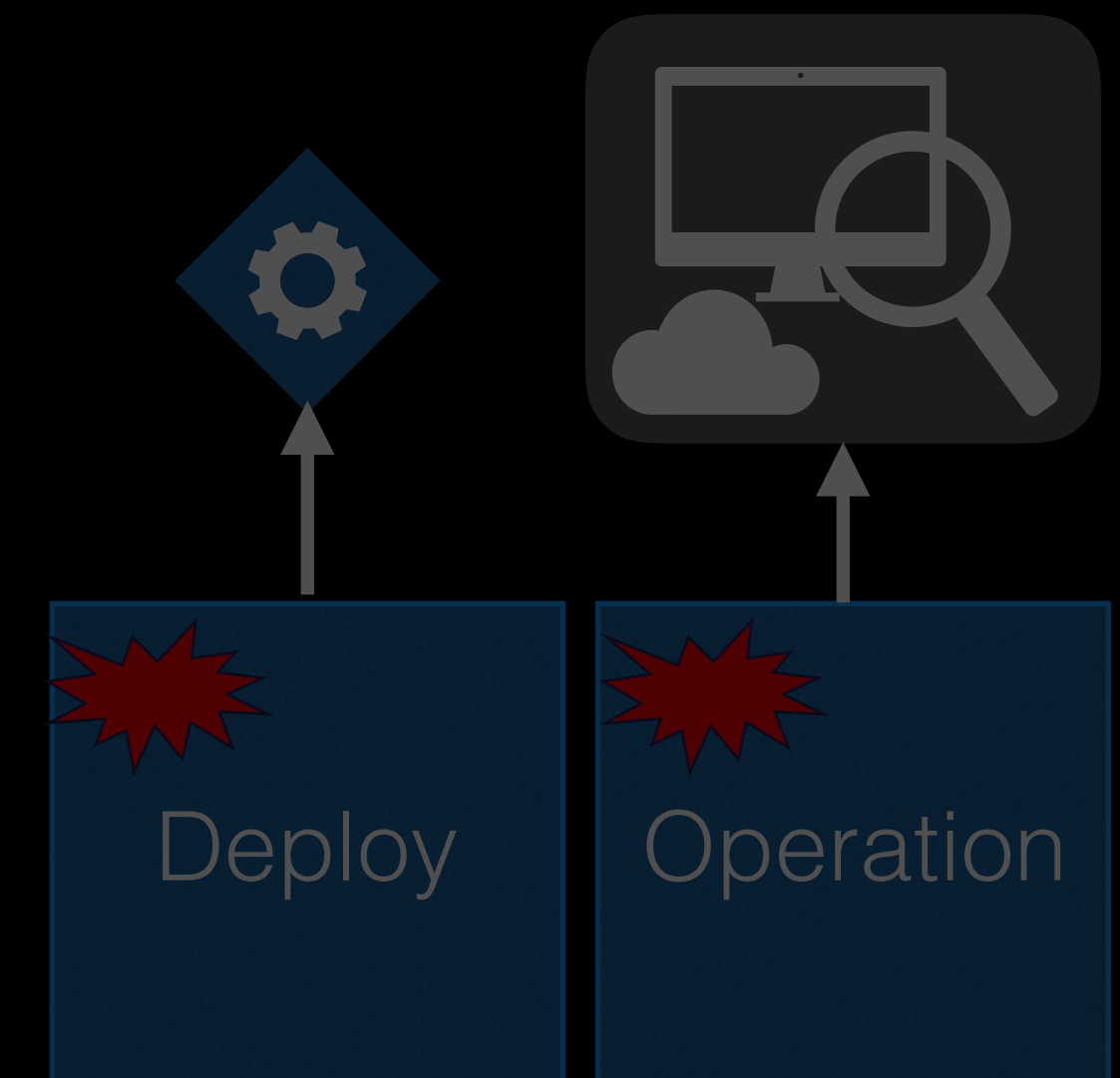
# Model Development Phases



**Data Preparation**

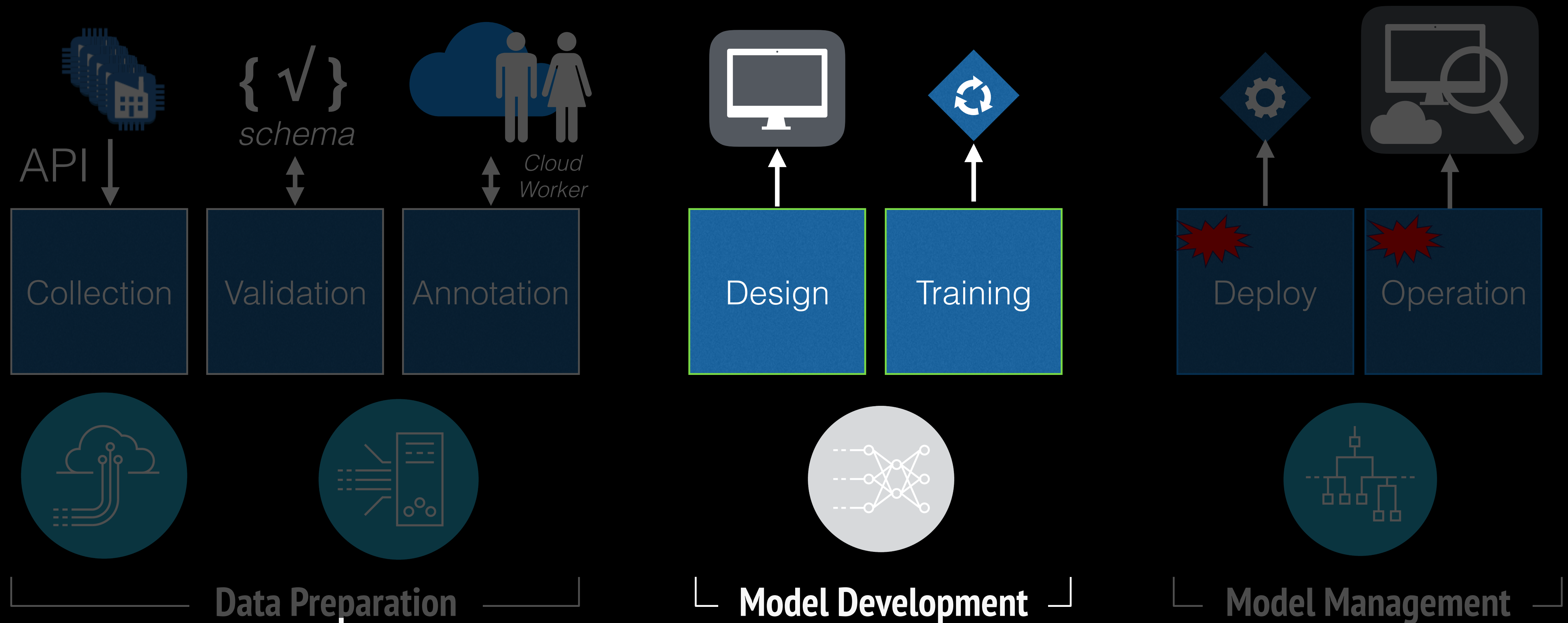


**Model Development**

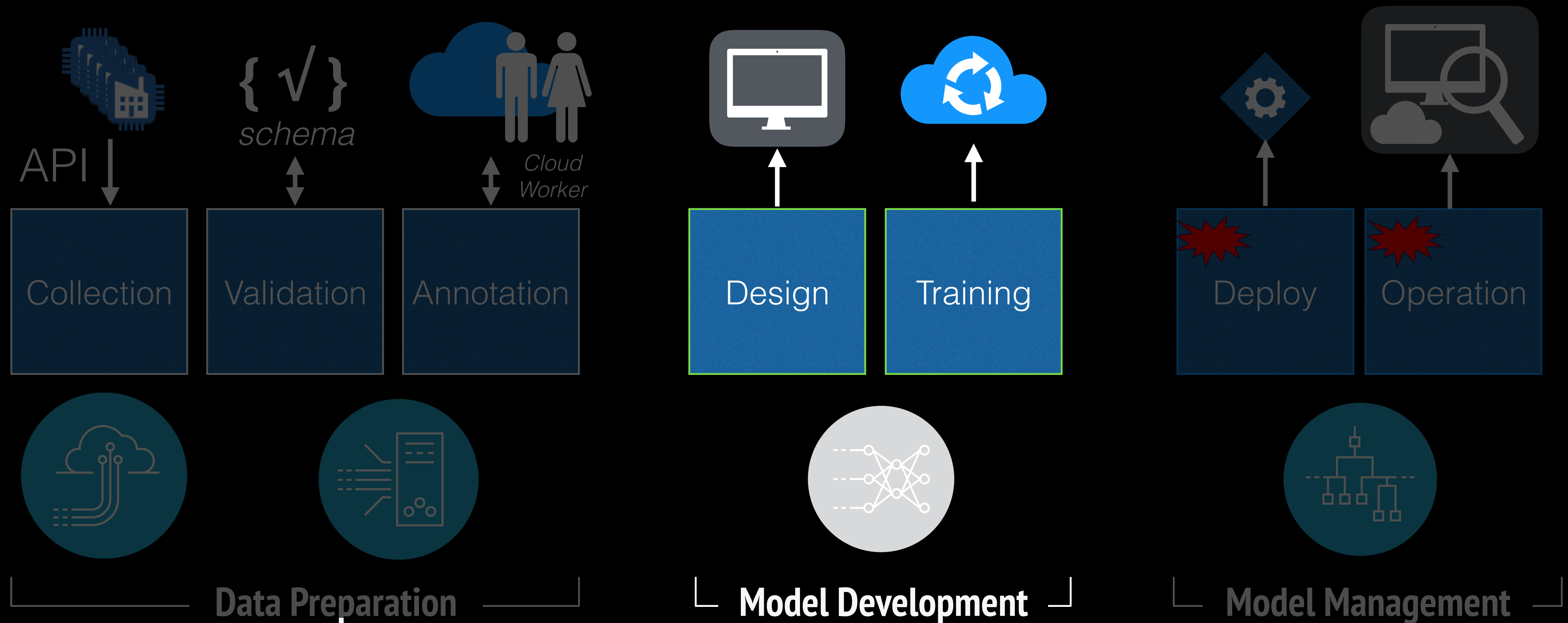


**Model Management**

# Model Development Phases

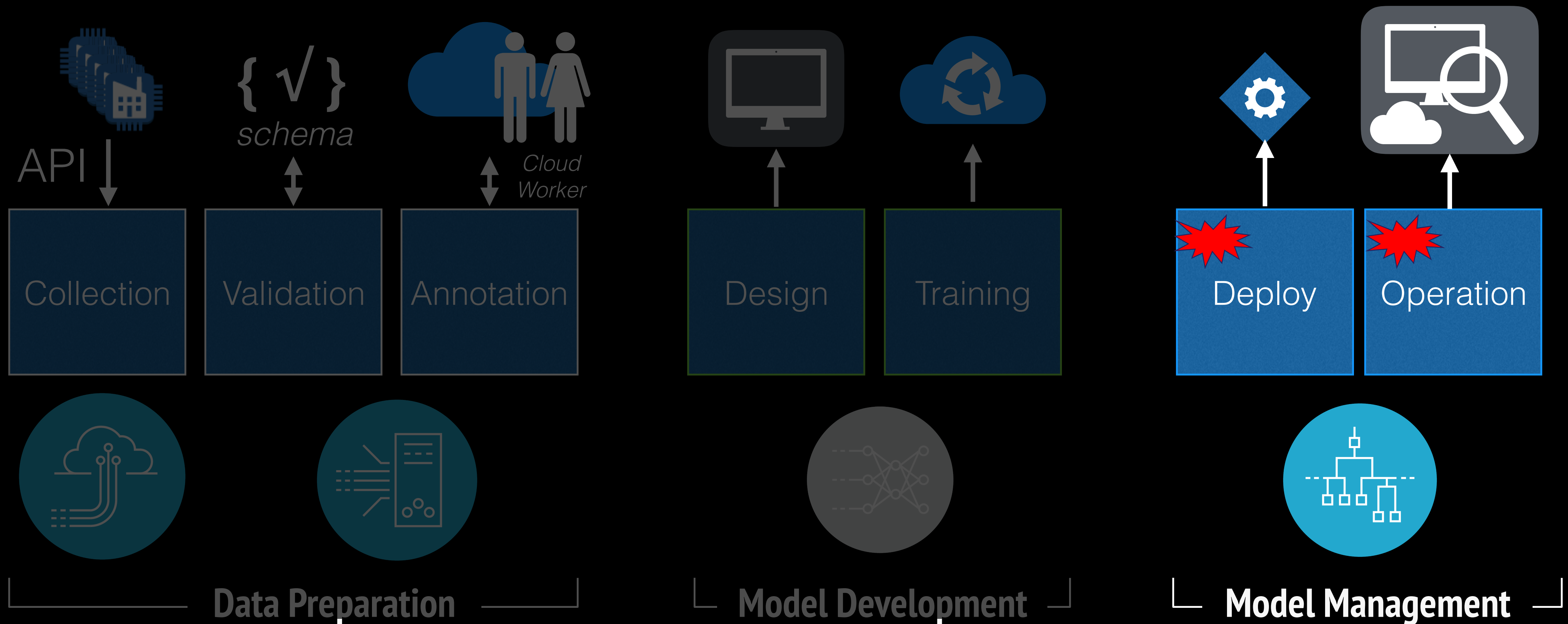


# Model Development Phases

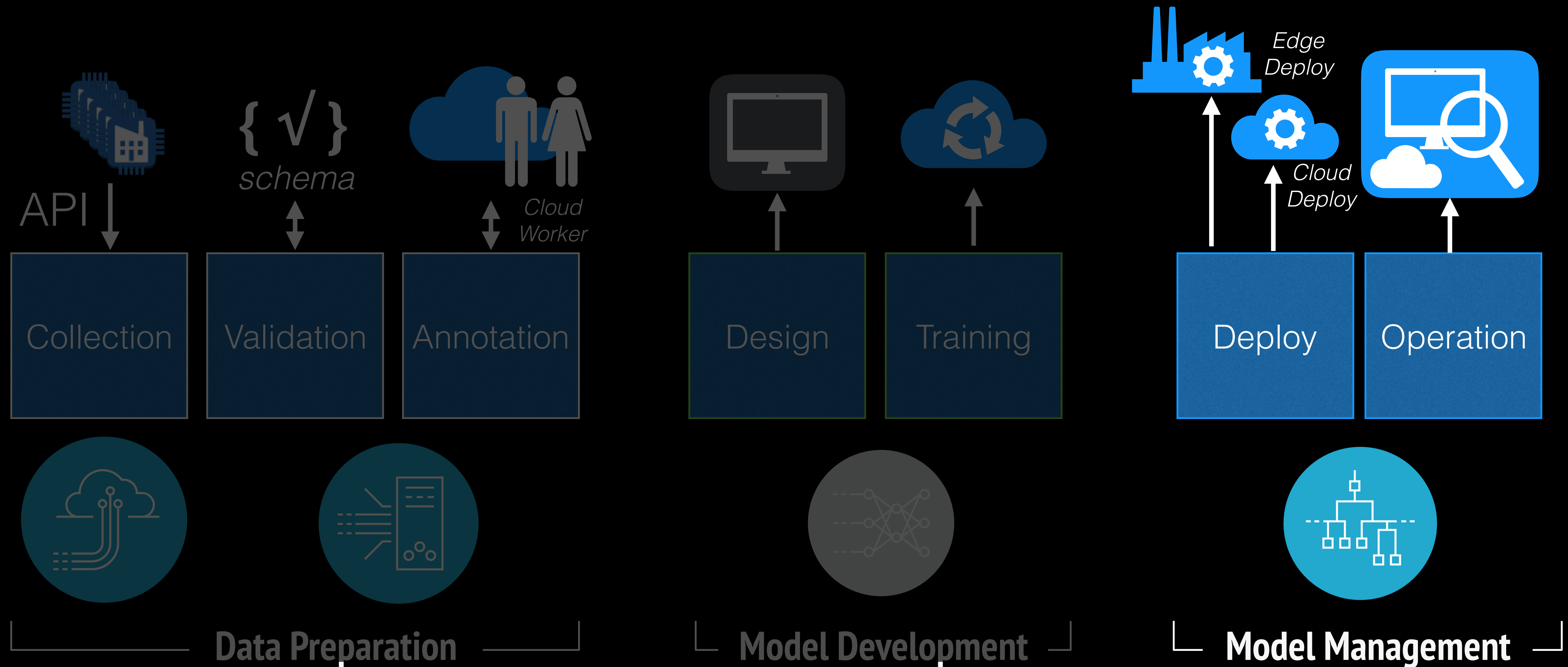




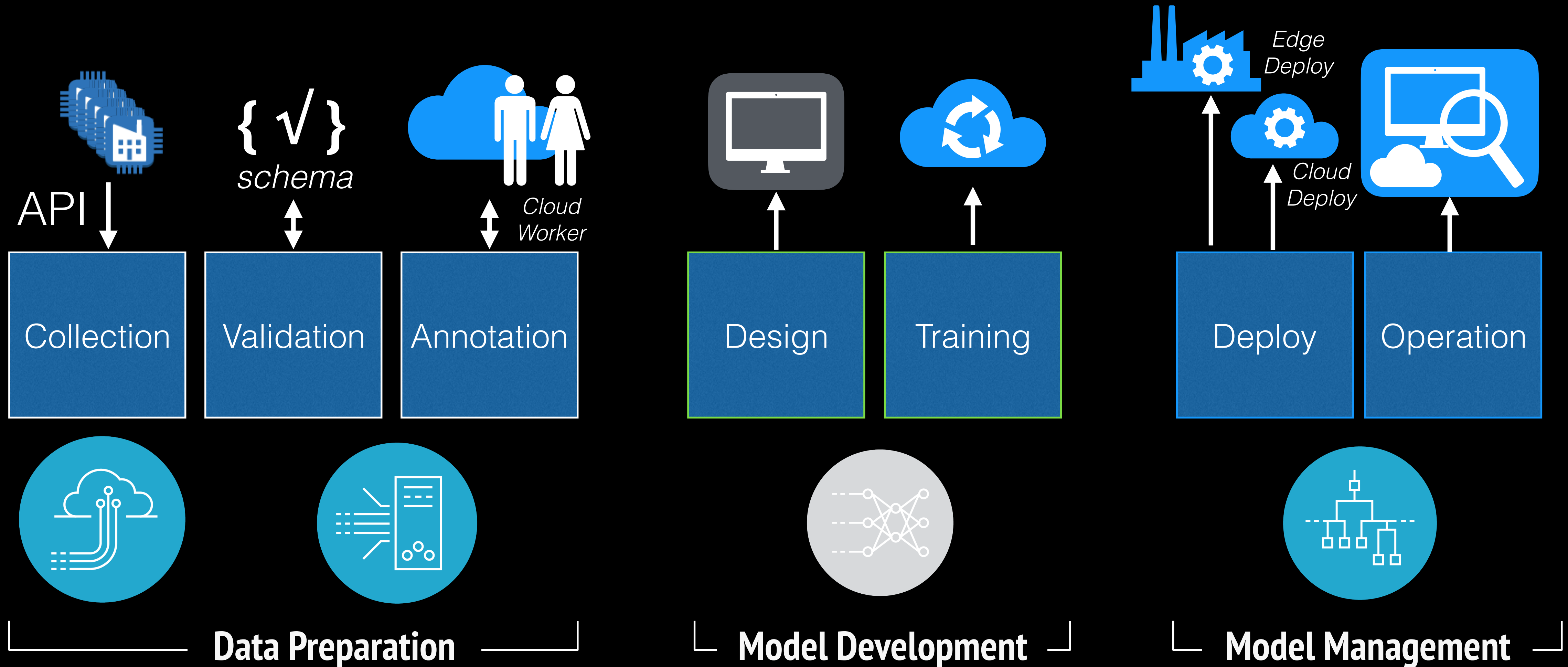
# Model Development Phases



# Model Development Phases

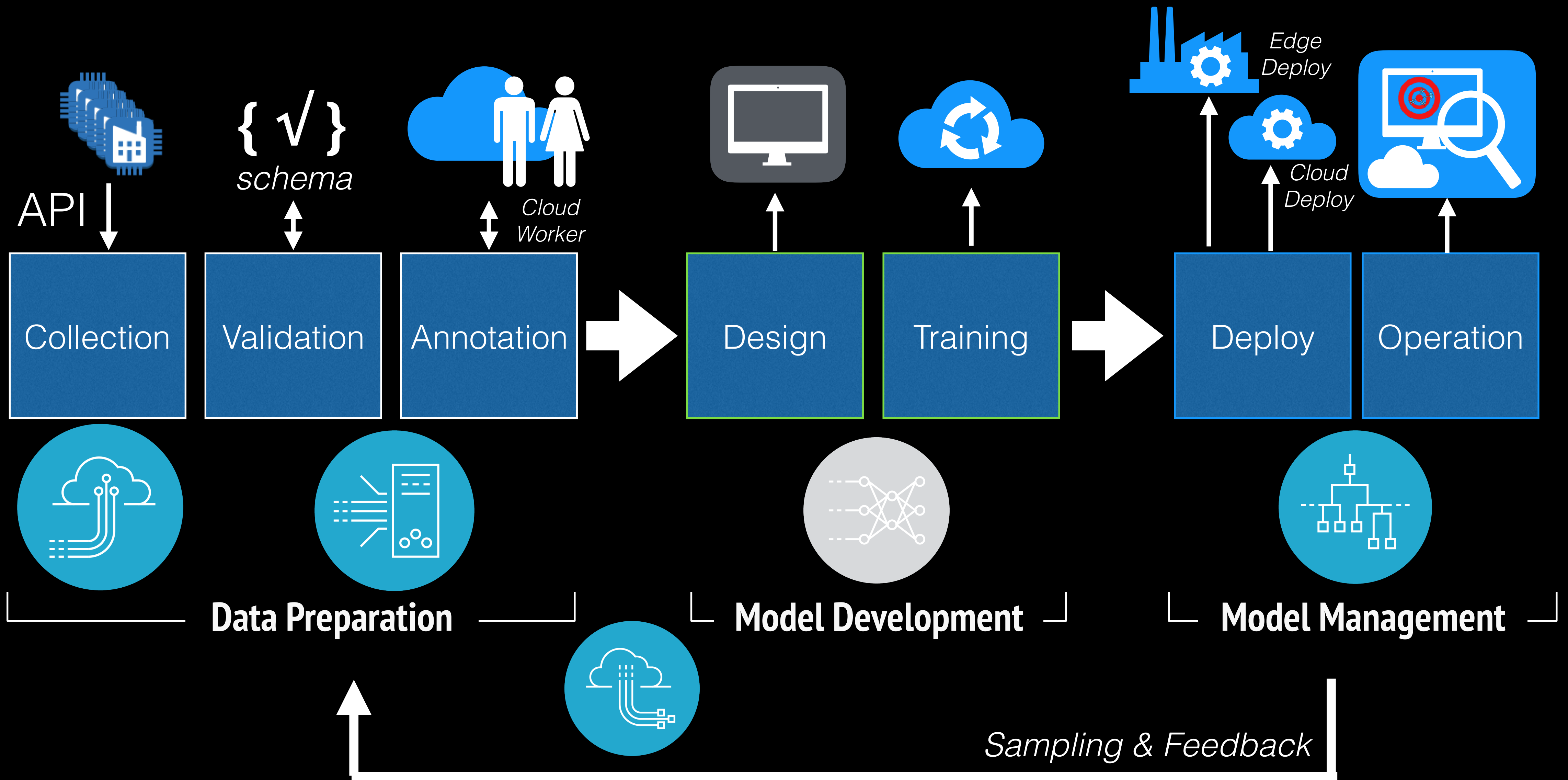


# Model Development Phases

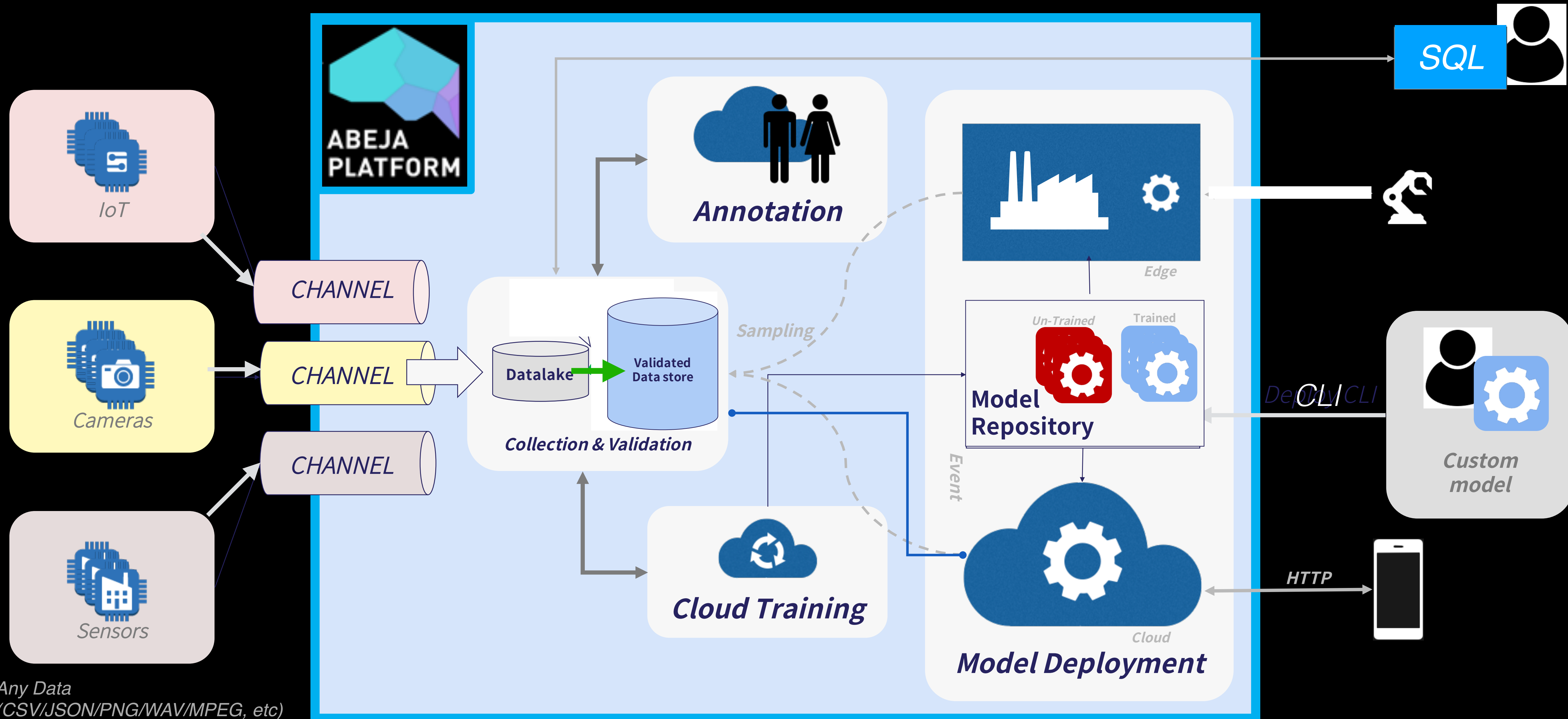




# ABEJA Platform Model Lifecycle



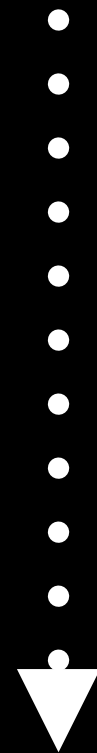
# ABEJA Platform Overview



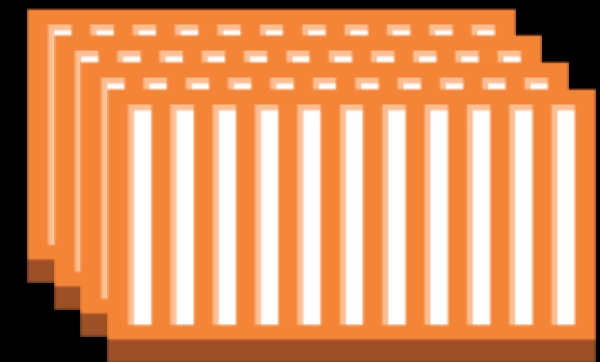
Any Data  
(CSV/JSON/PNG/WAV/MPEG, etc)

# Why use ABEJA Platform?

Data Science Team



IaaS



Processor



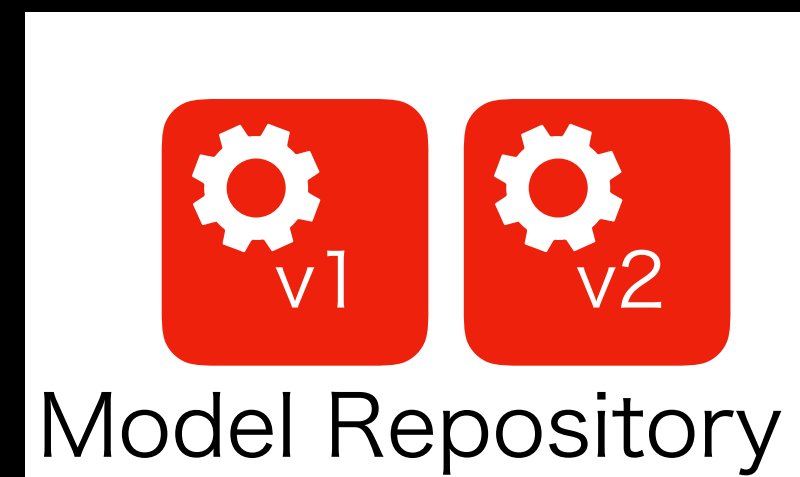
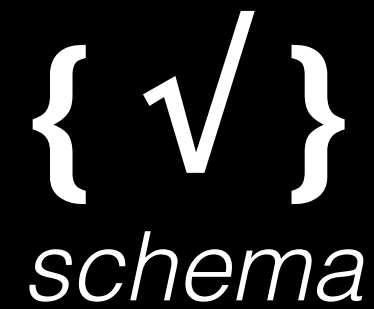


# Why use ABEJA Platform?

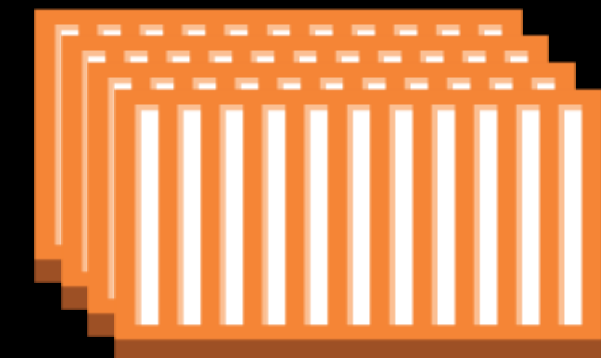
Data Science Team



PaaS



IaaS



Processor

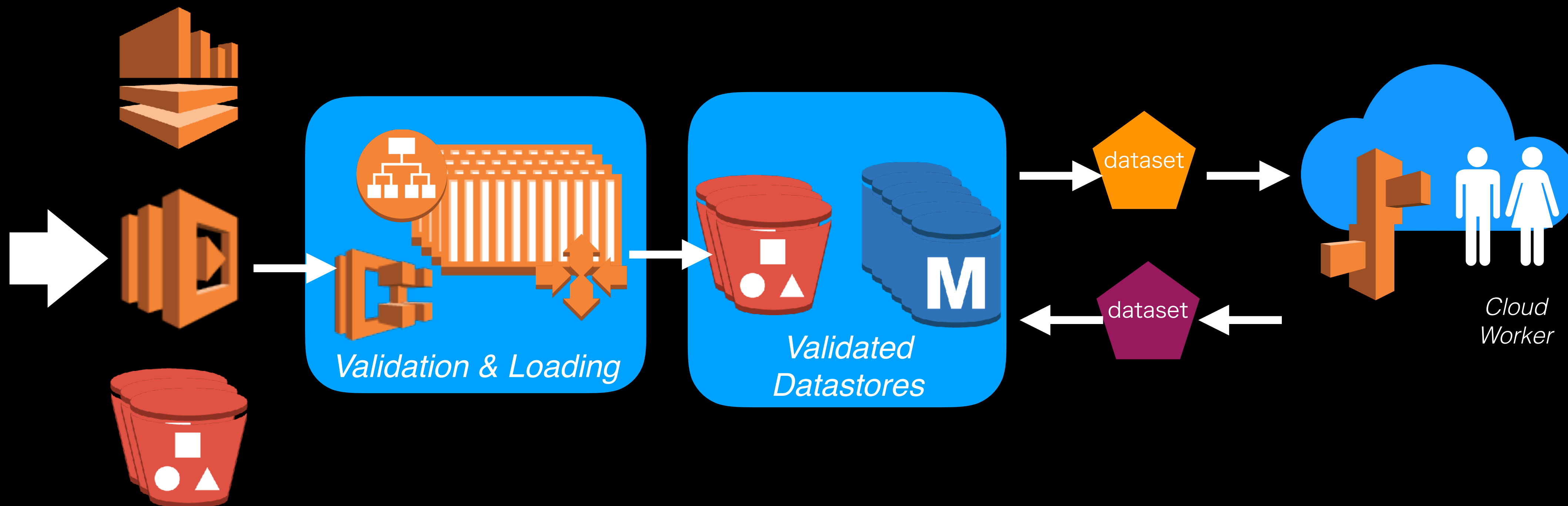
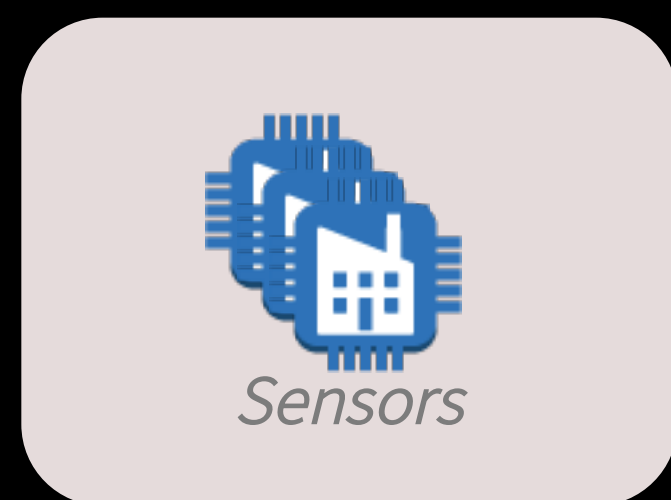
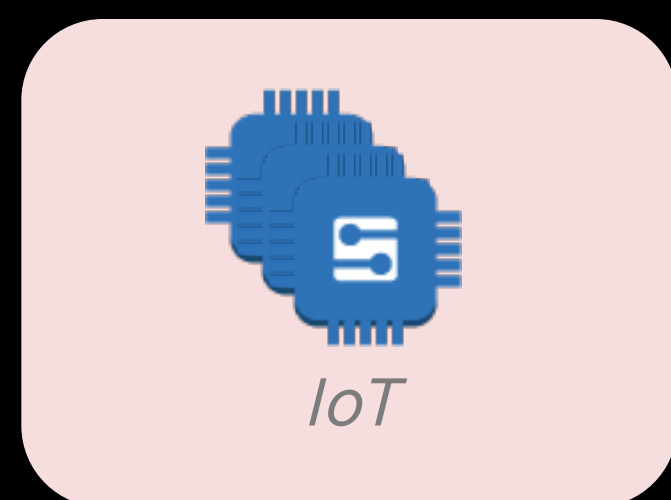


# How does AWS enable us?

- Data Preparation
- Model Development
- Model Management

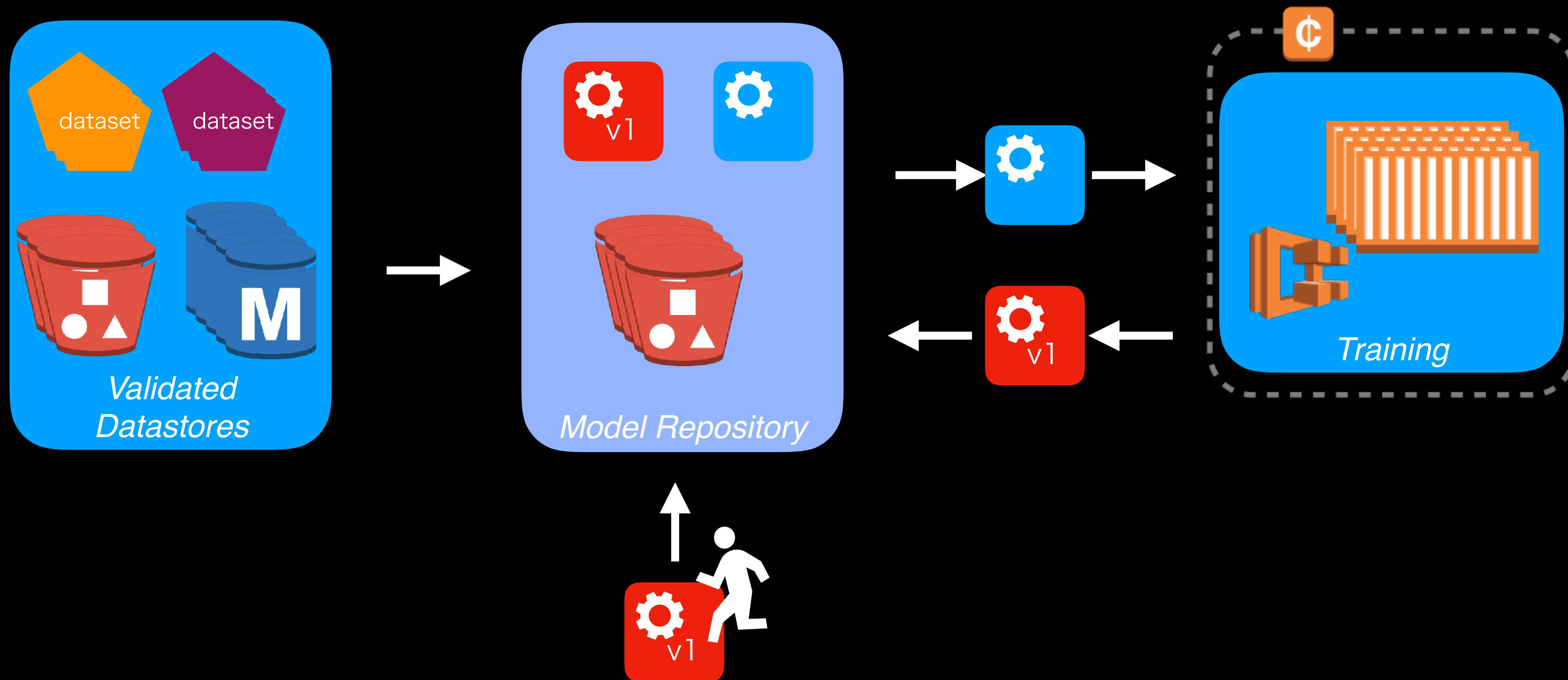
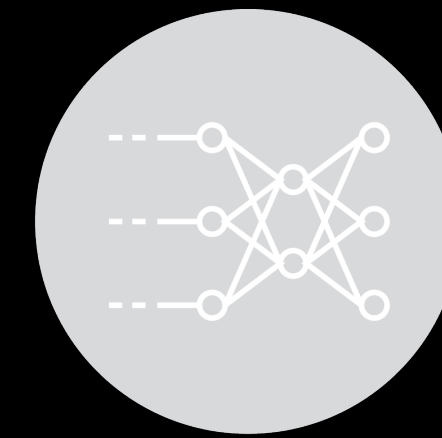


# Data Preparation

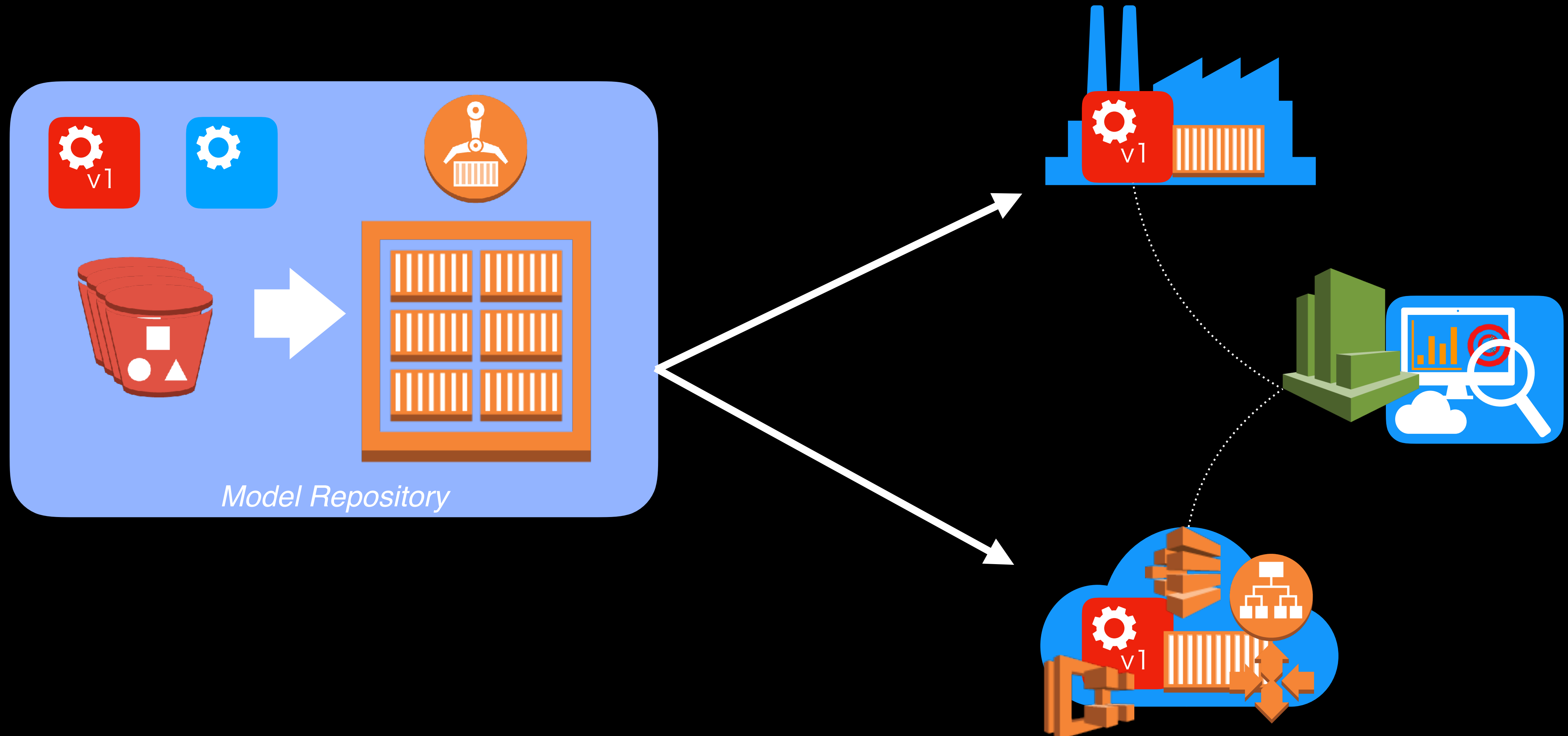
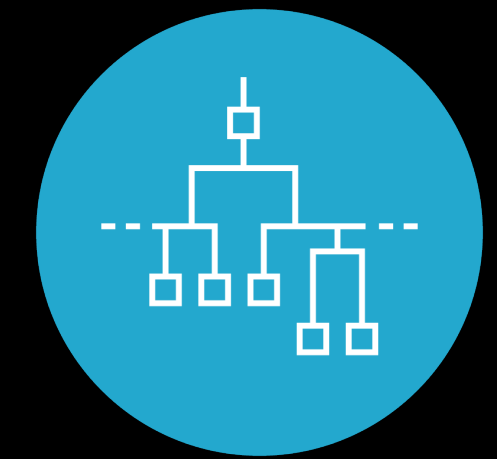




# Model Development



# Model Management



# What's New?



**AWS Batch**

*2017-6  
Tokyo Region*



**Kinesis Firehose**

*2017-8  
Tokyo Region*



**Step Functions**

*2016-12  
Tokyo Region*



# What else?



# Zappa

## API Star 🚀🌟🌟🌟

A smart Web API framework, designed for Python 3.

build passing codecov 97% pypi package 0.3.5 python 3.5, 3.6

Community: <https://discuss.apistar.org/> 🗨️ 🤖 🧐 💬 😎

```
./app.py
./tests.py
$ cat app.py
from apistar import App, Include, Route
from apistar.docs import docs_routes
from apistar.statics import static_routes

def welcome(name=None):
    if name is None:
        return {'message': 'Welcome to API Star!'}
    return {'message': 'Welcome to API Star, %s!' % name}

routes = [
    Route('/', 'GET', welcome),
    Include('/docs', docs_routes),
    Include('/static', static_routes)
]

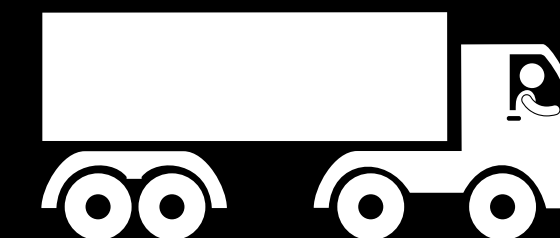
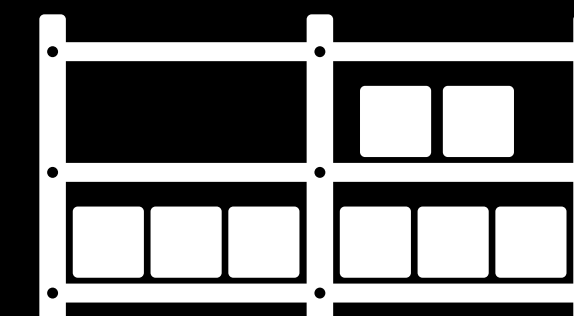
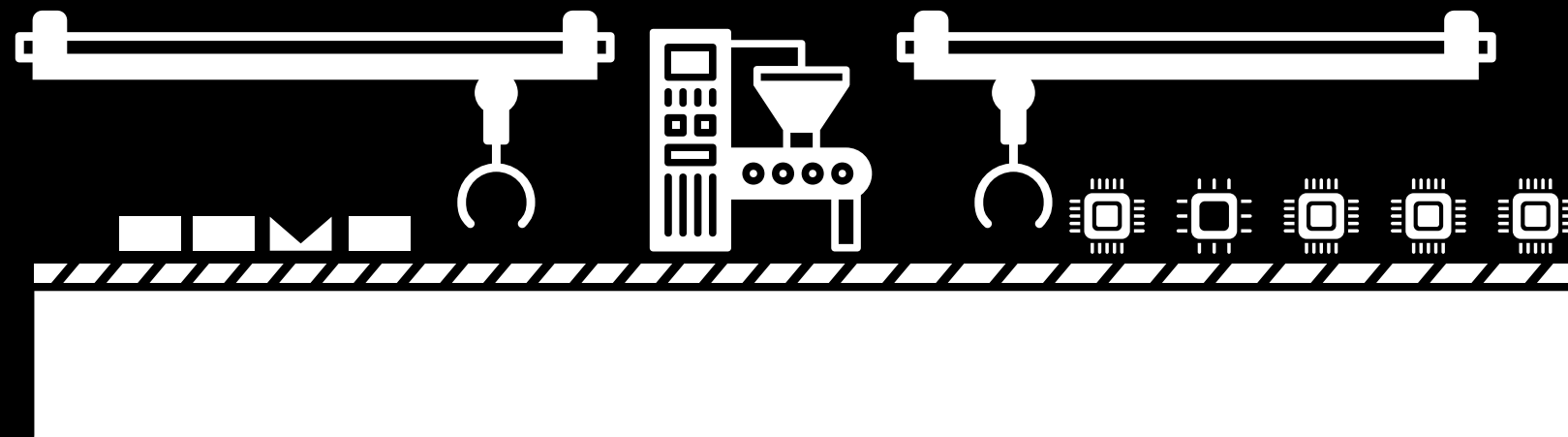
app = App(routes=routes)
$
```

# *APIStar*

# Use-Case

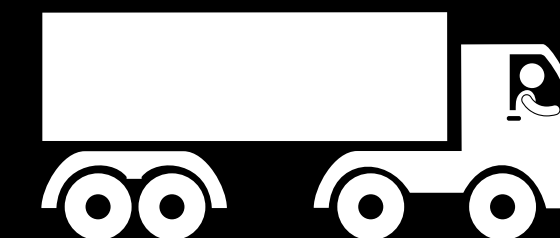
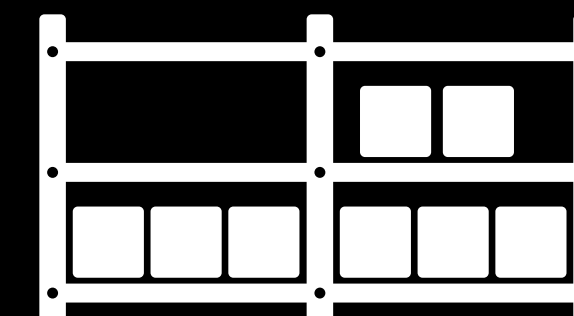
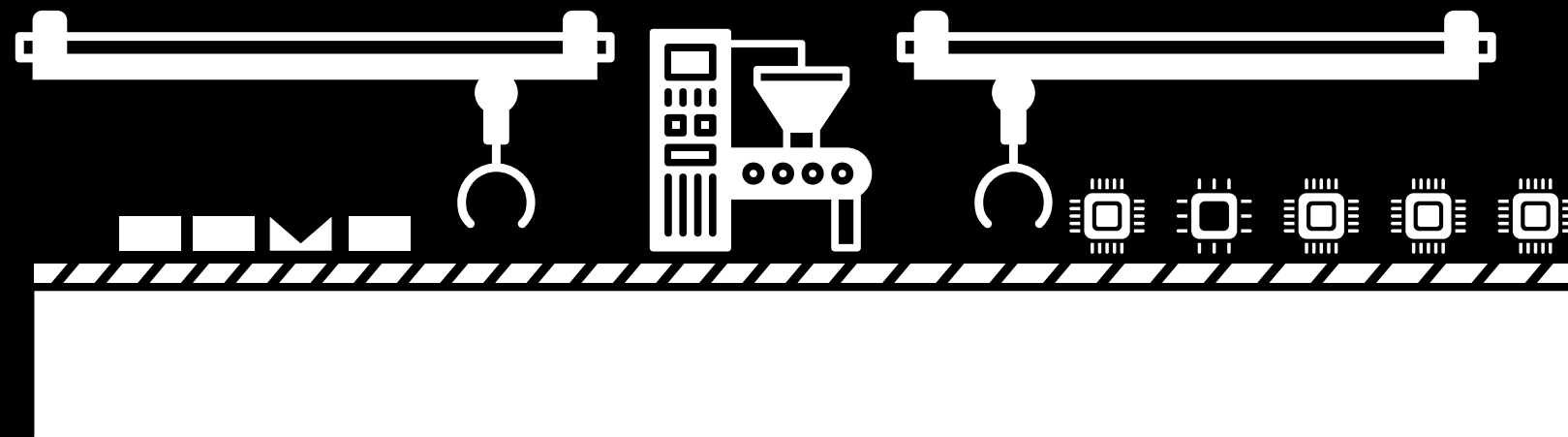
- Manufacture
- Logistics
- Retail

# Manufacture

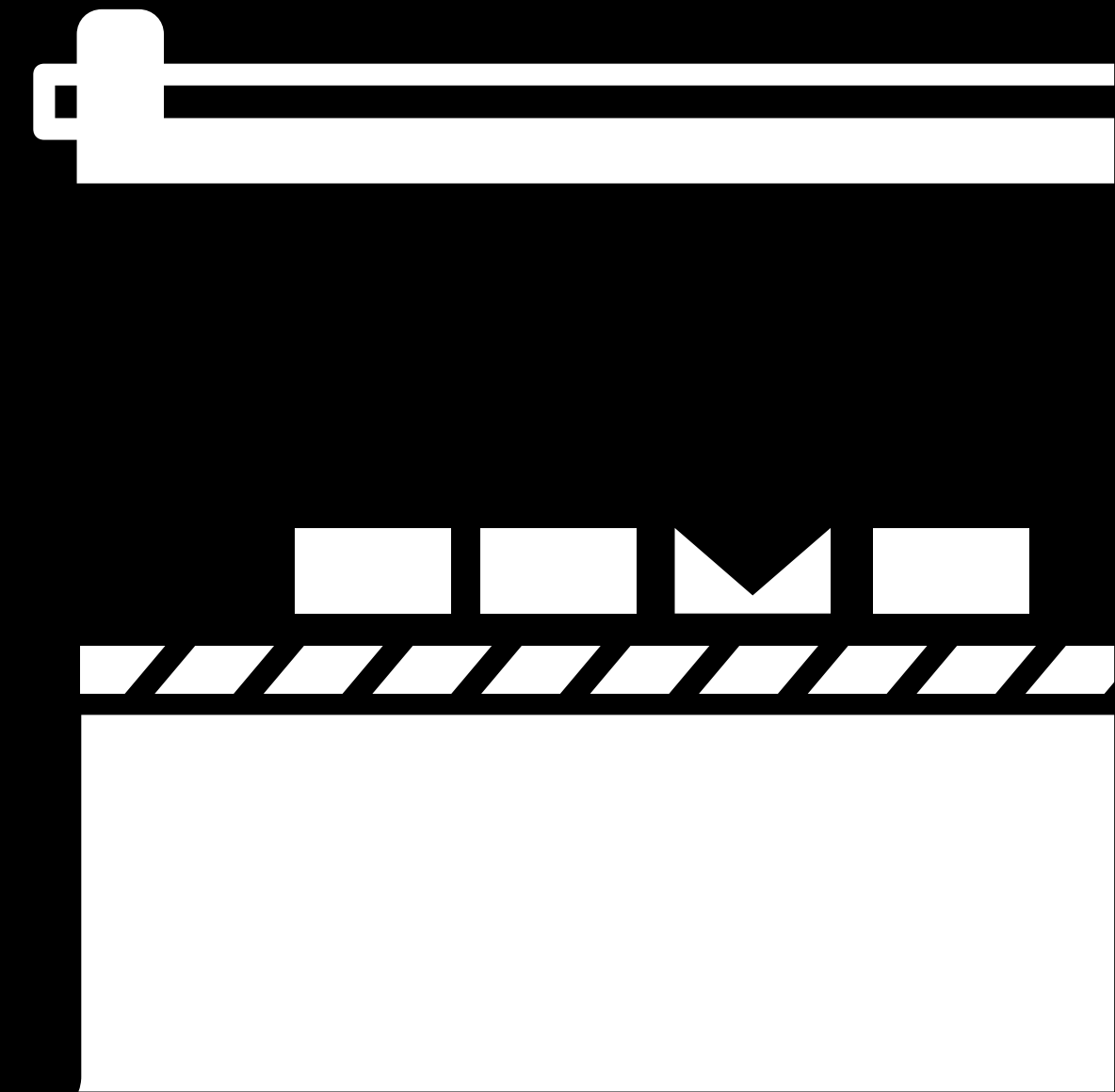
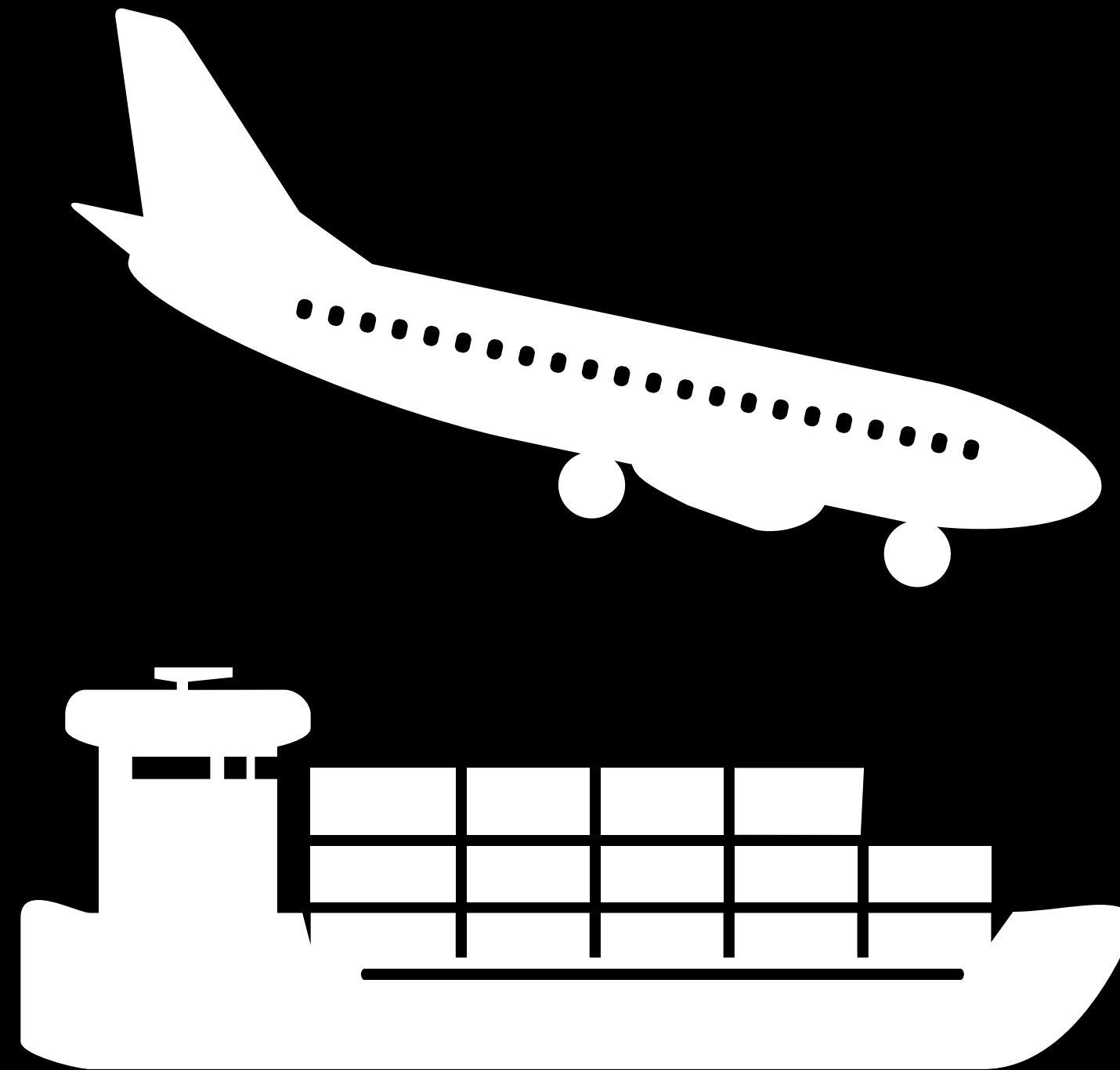




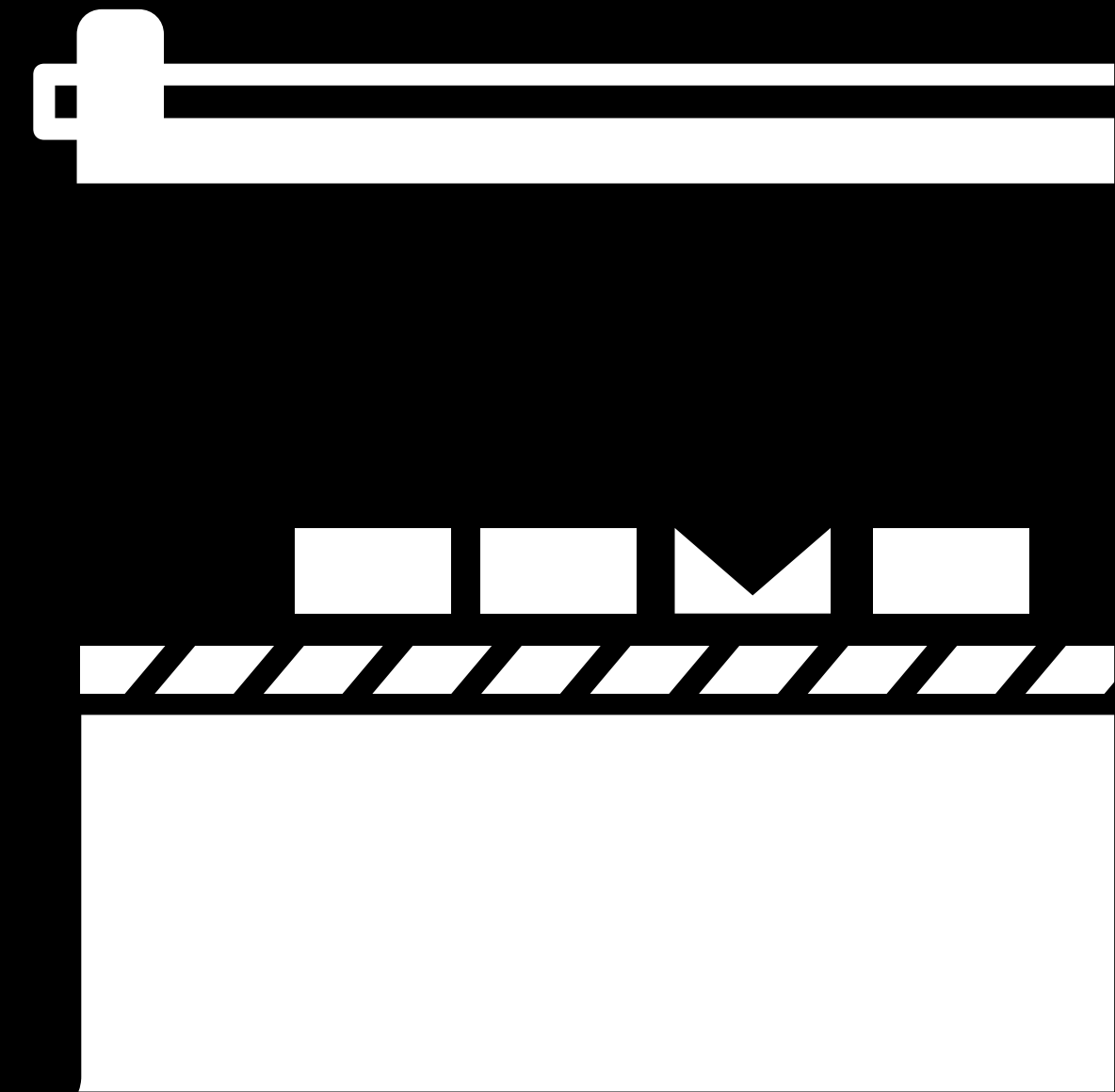
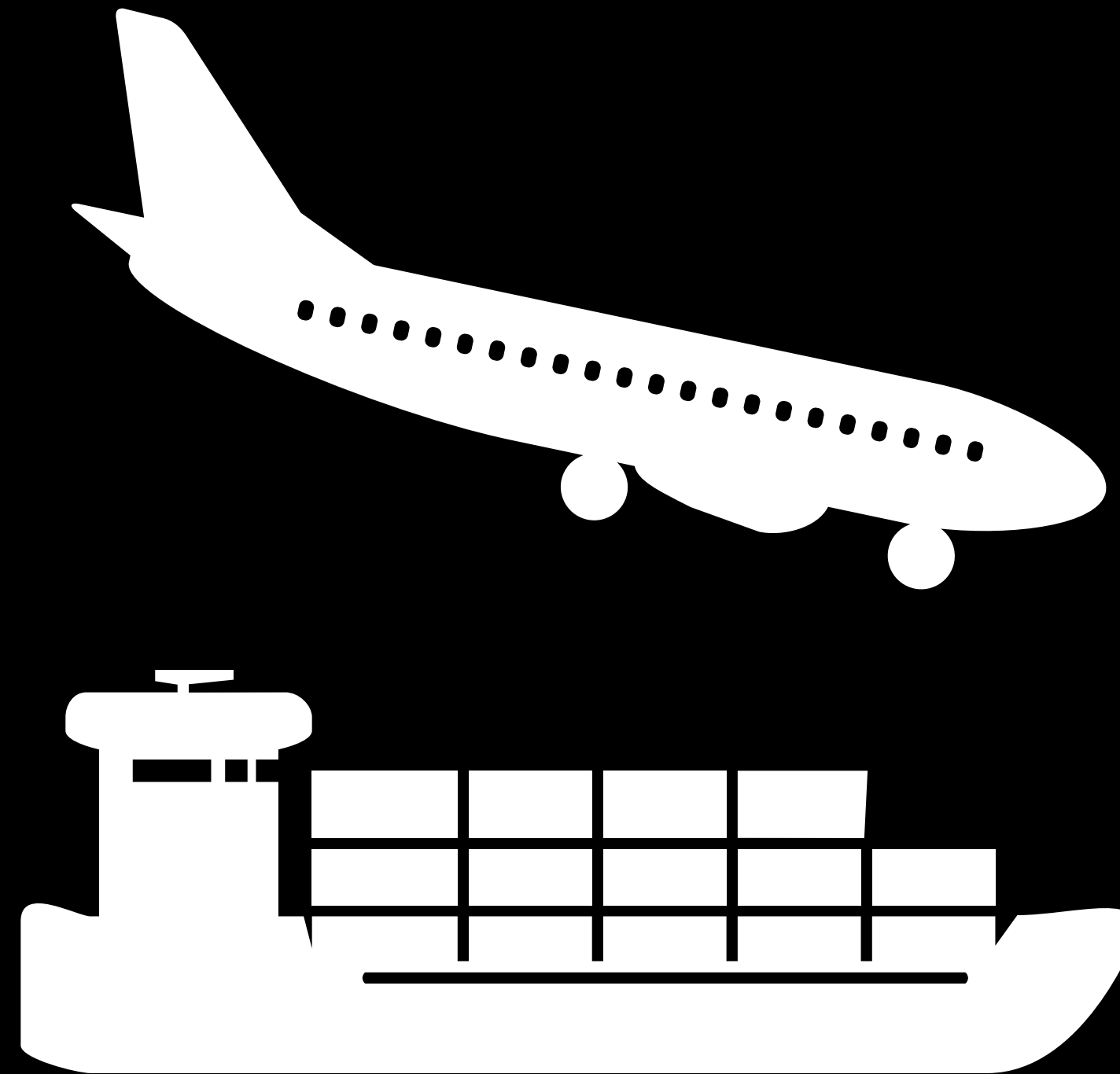
# Manufacture



# Manufacture



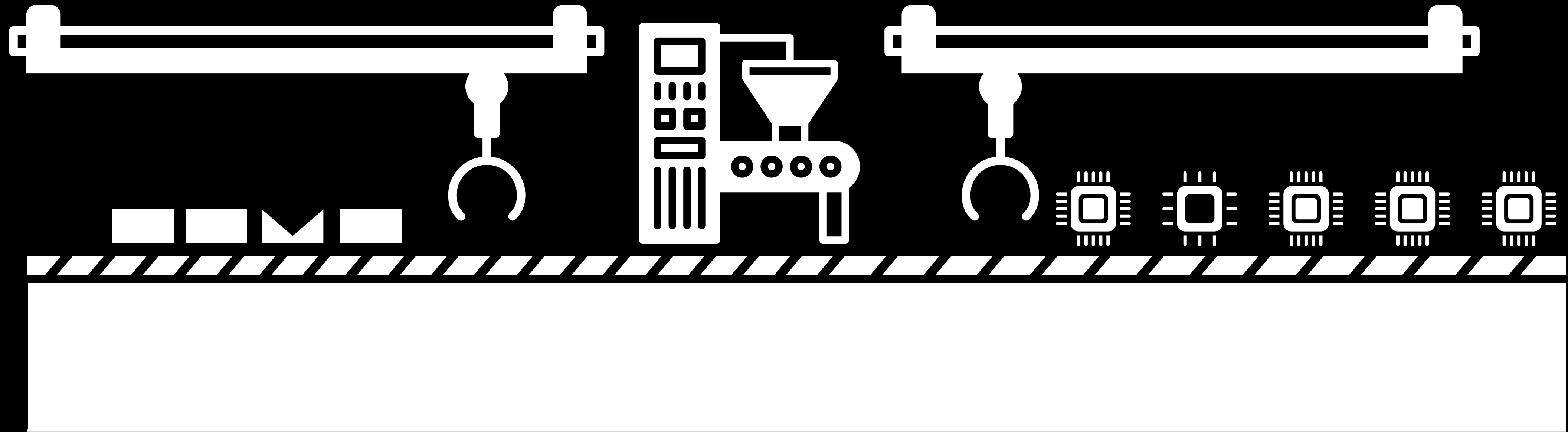
# Manufacture



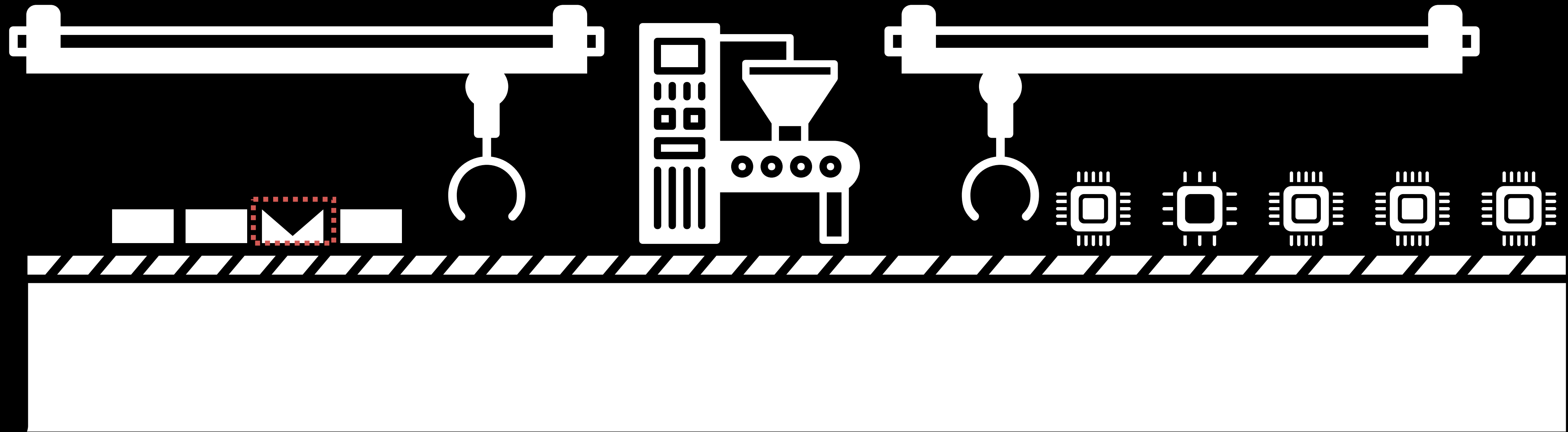
# Control Amount of Material



# Manufacture

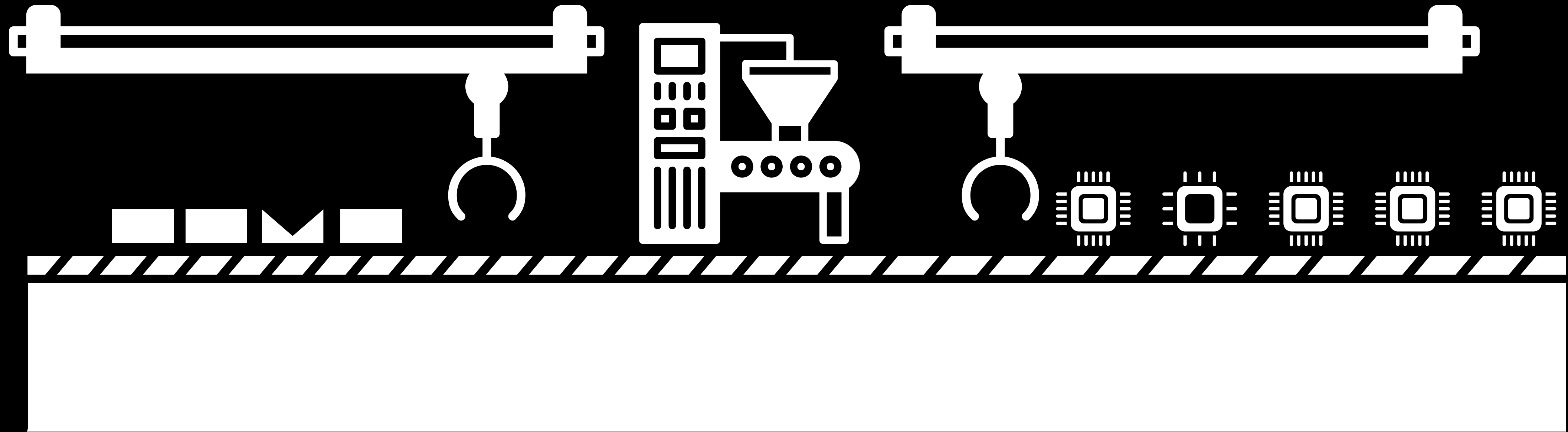


# Manufacture

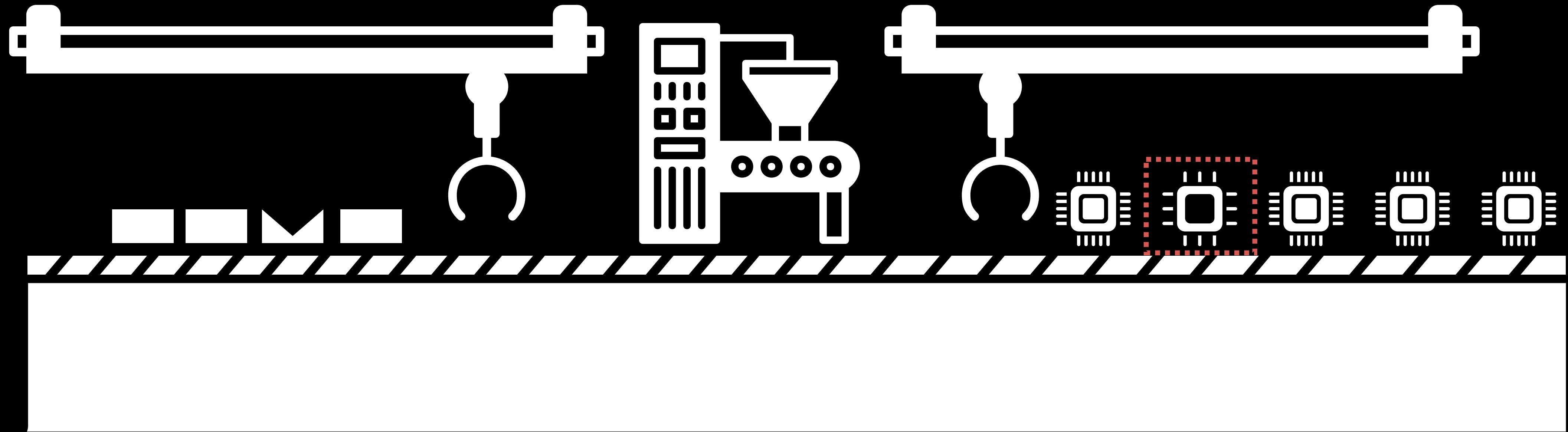


## Inspection of Material

# Manufacture



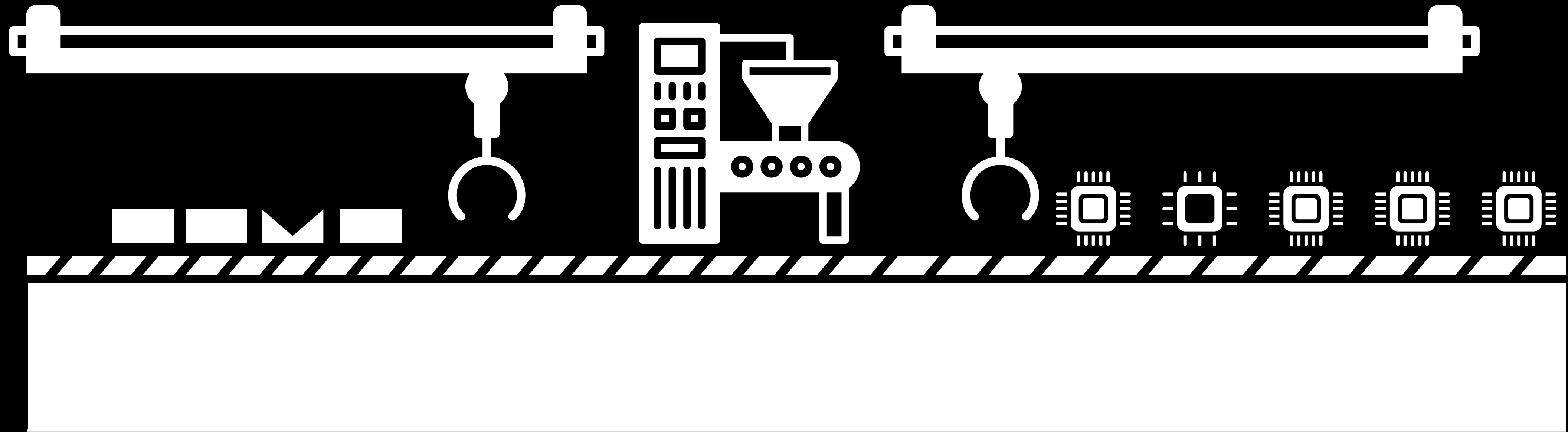
# Manufacture



# Product Inspection

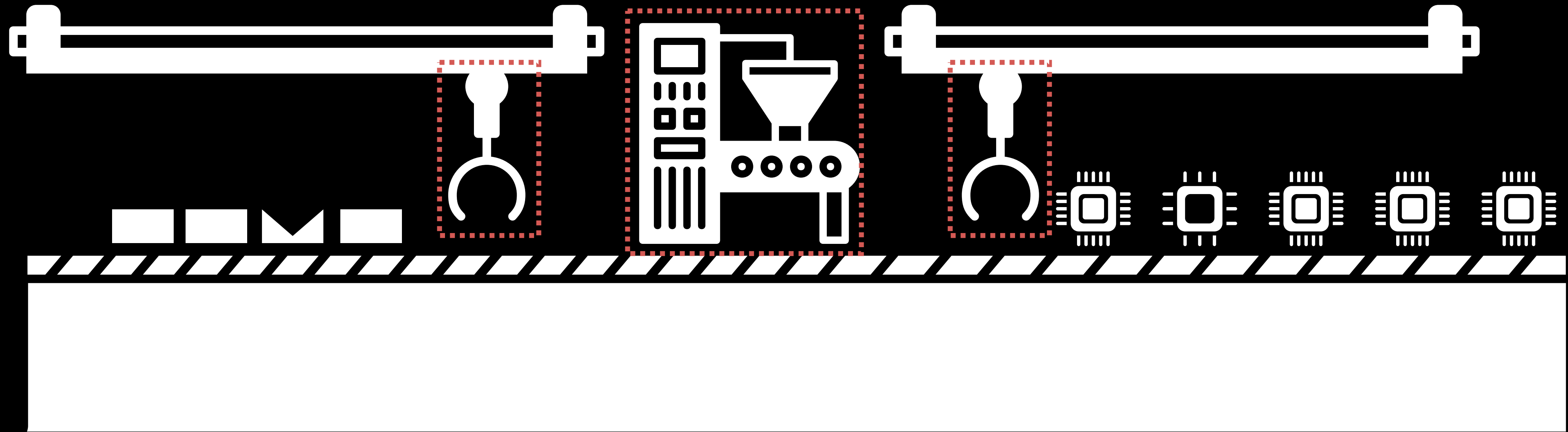


# Manufacture



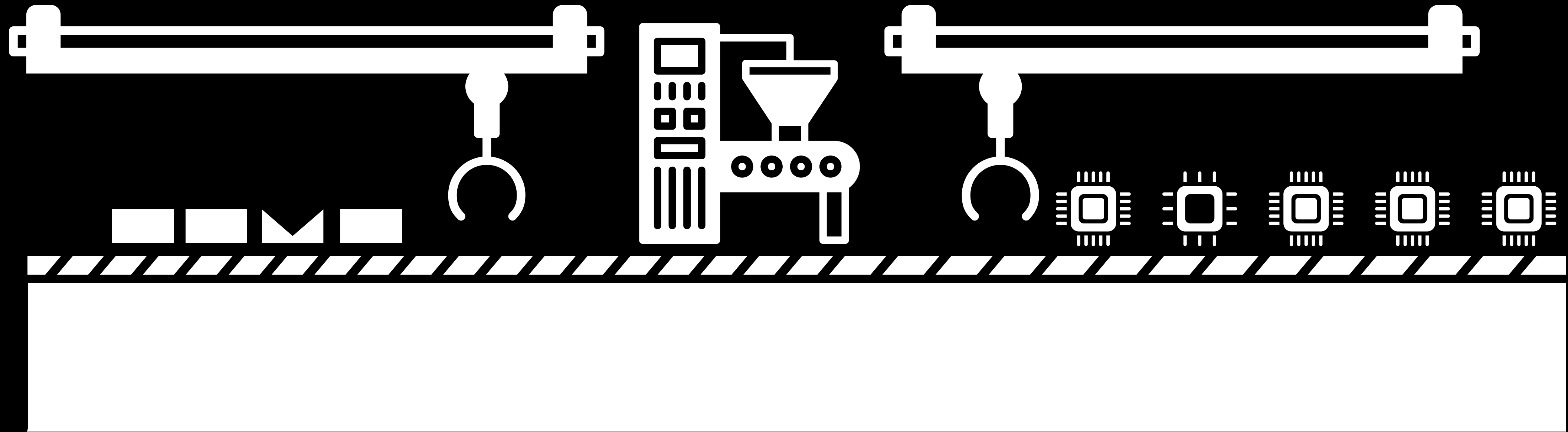
# Product Inspection

# Manufacture

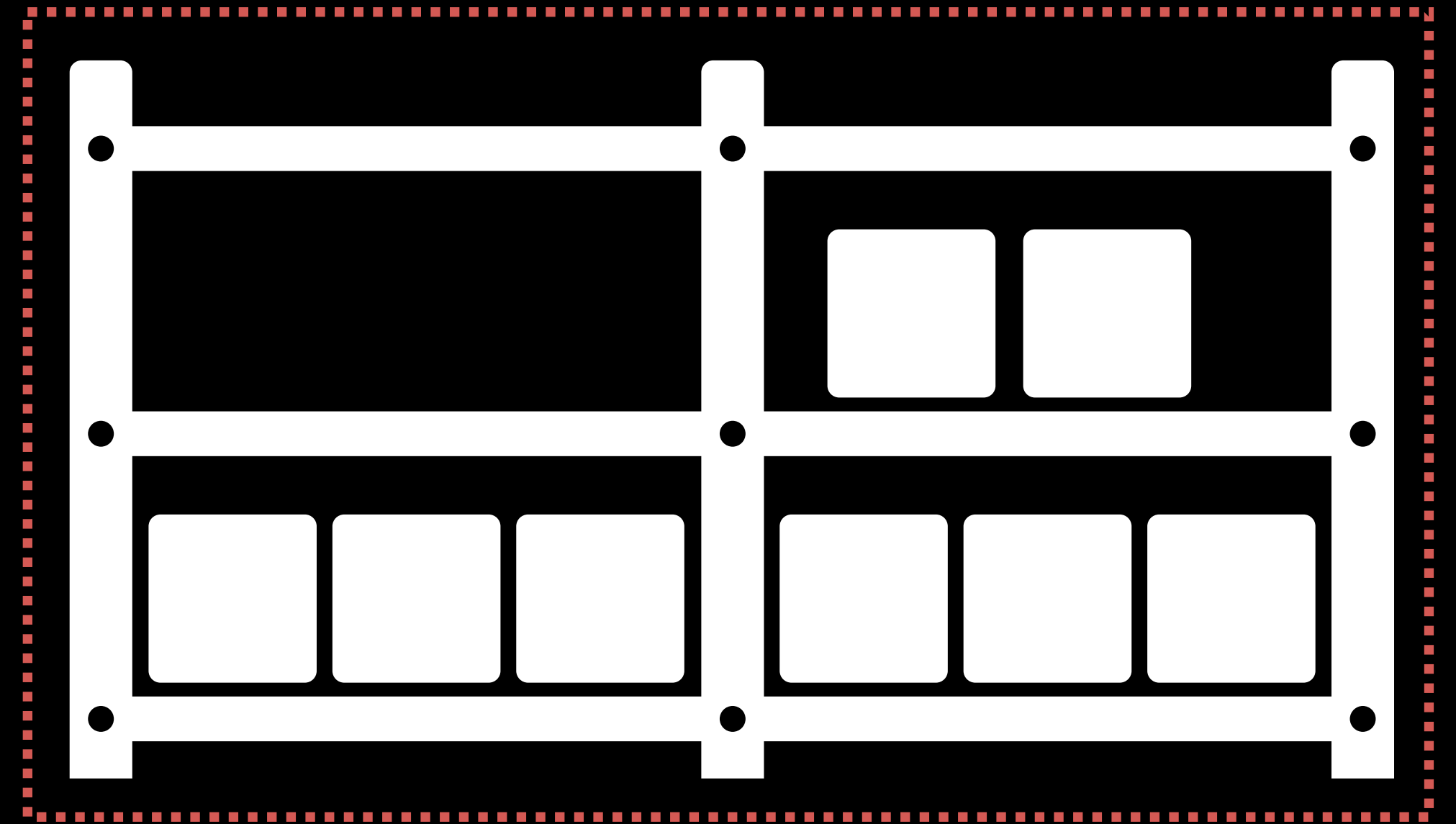


# Fault Detection / Fault Prediction

# Manufacture



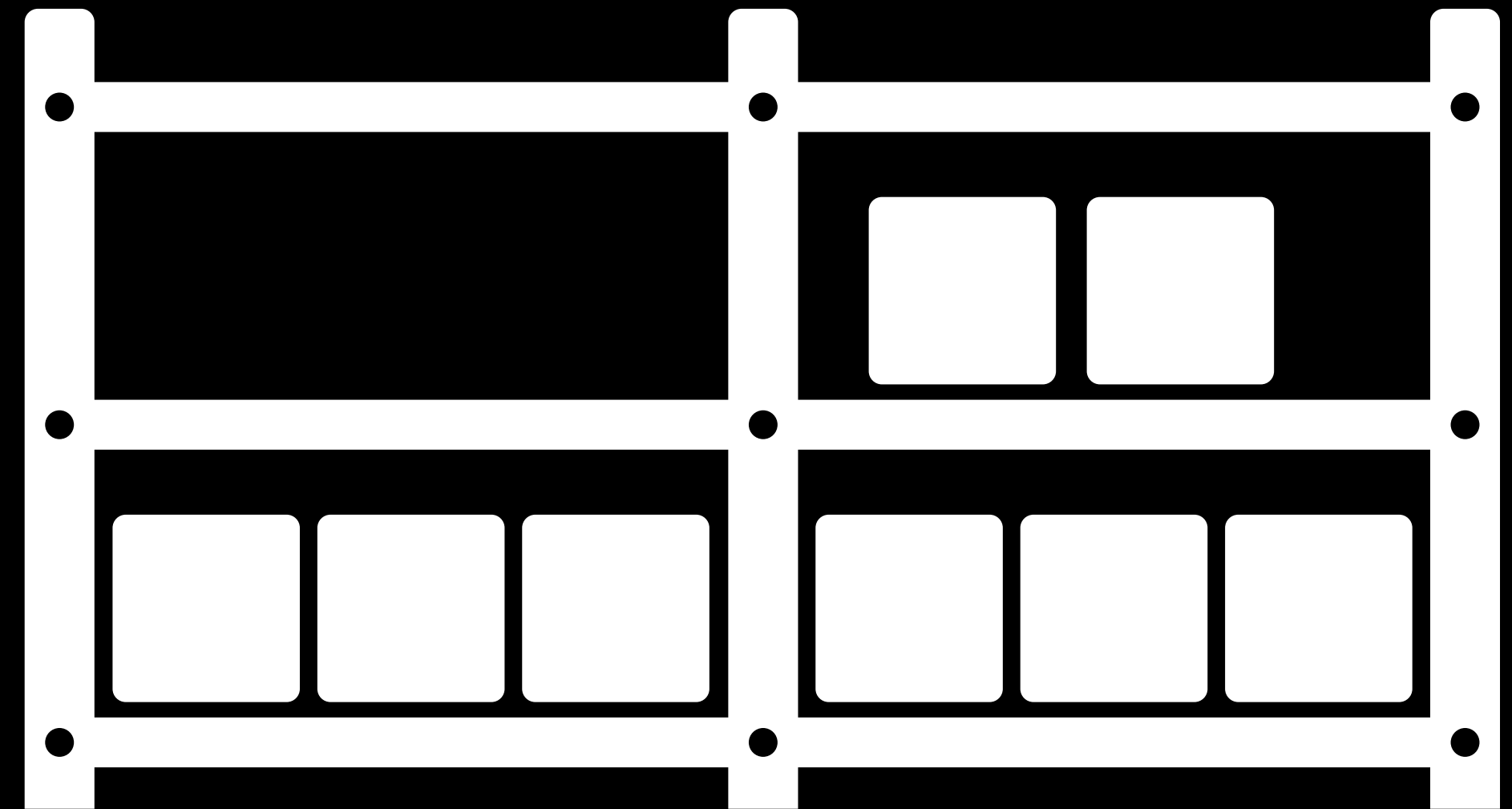
# Manufacture



# Inventory Optimization

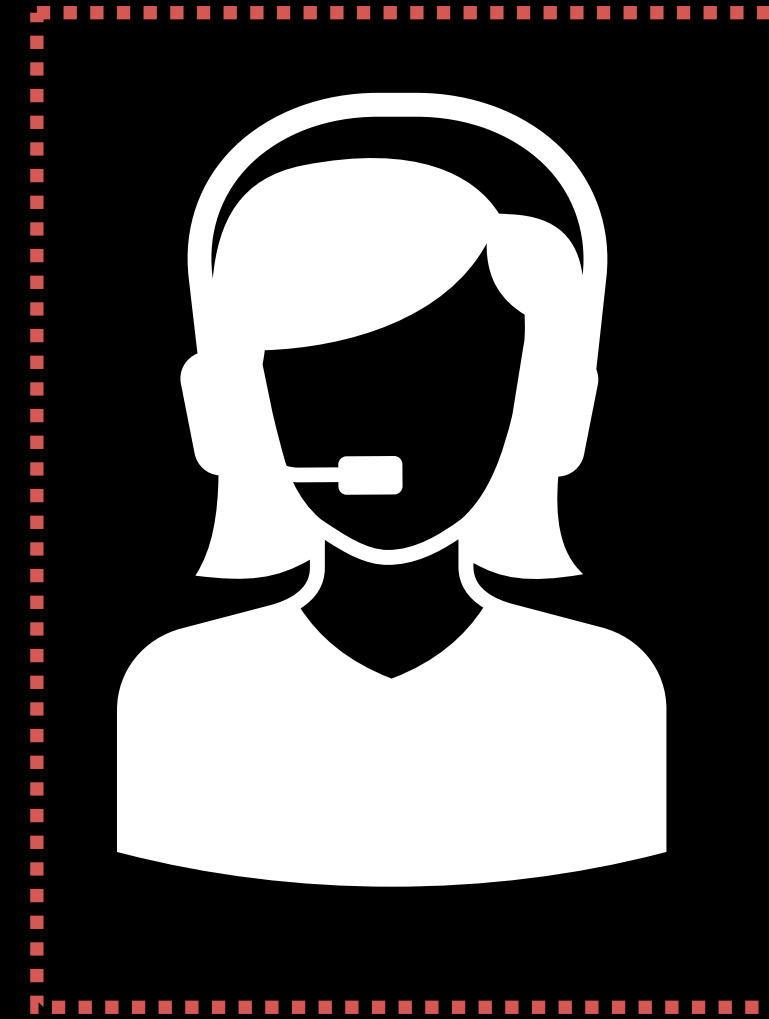
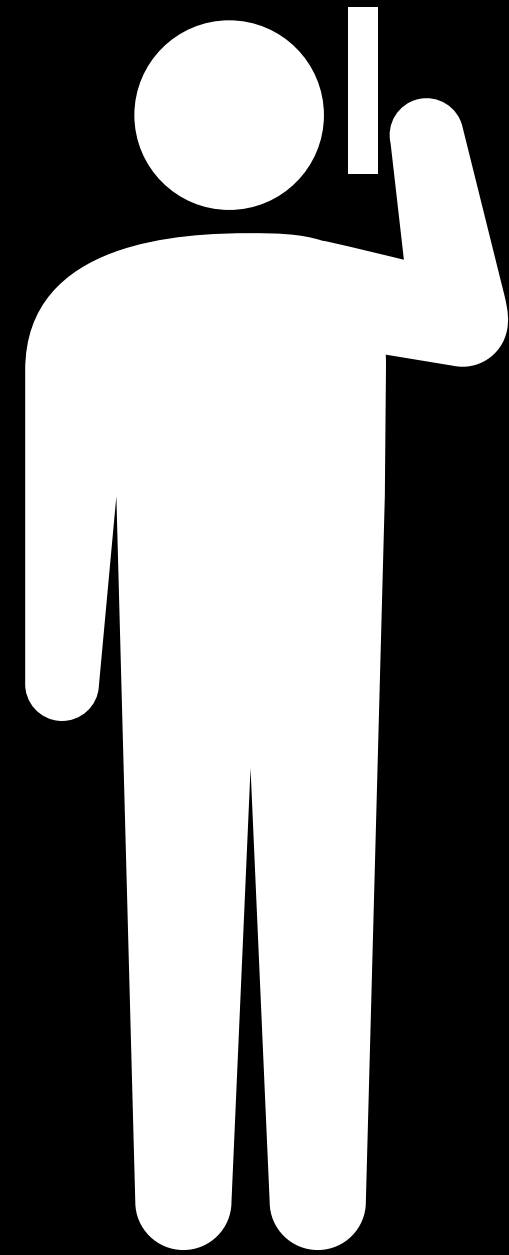


# Manufacture



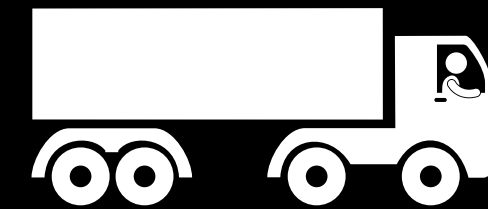
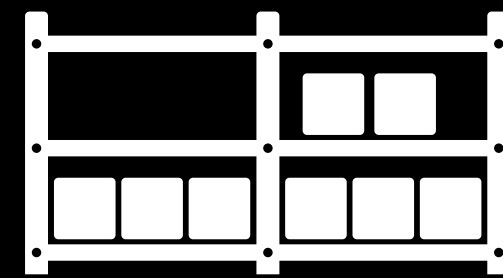
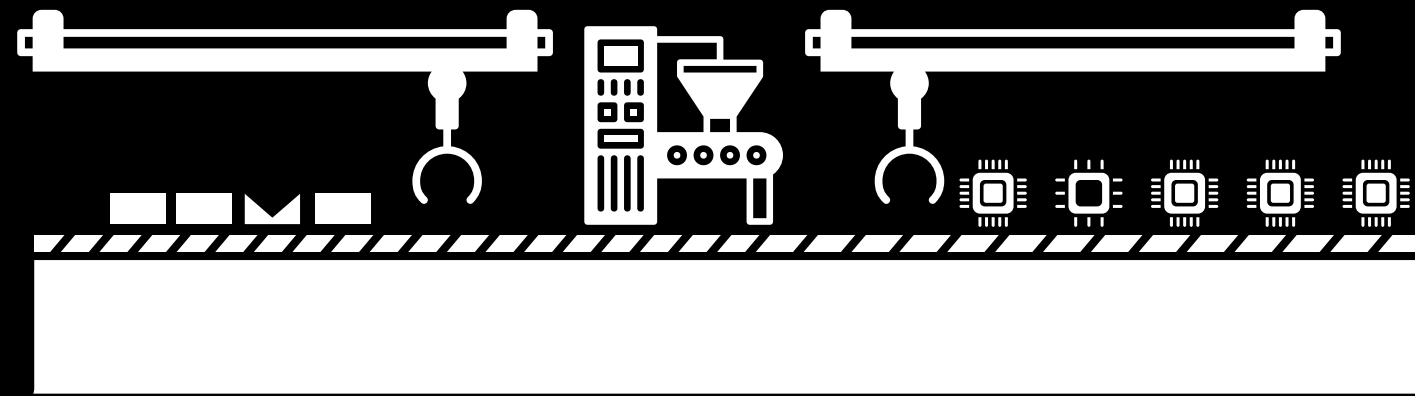
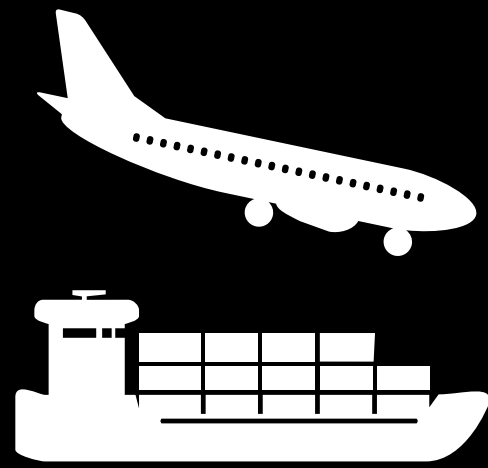
# Inventory Optimization

# Manufacture

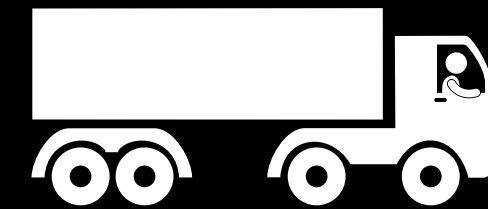
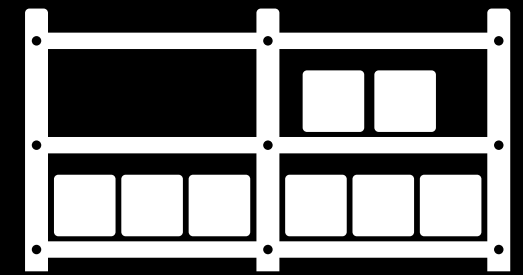
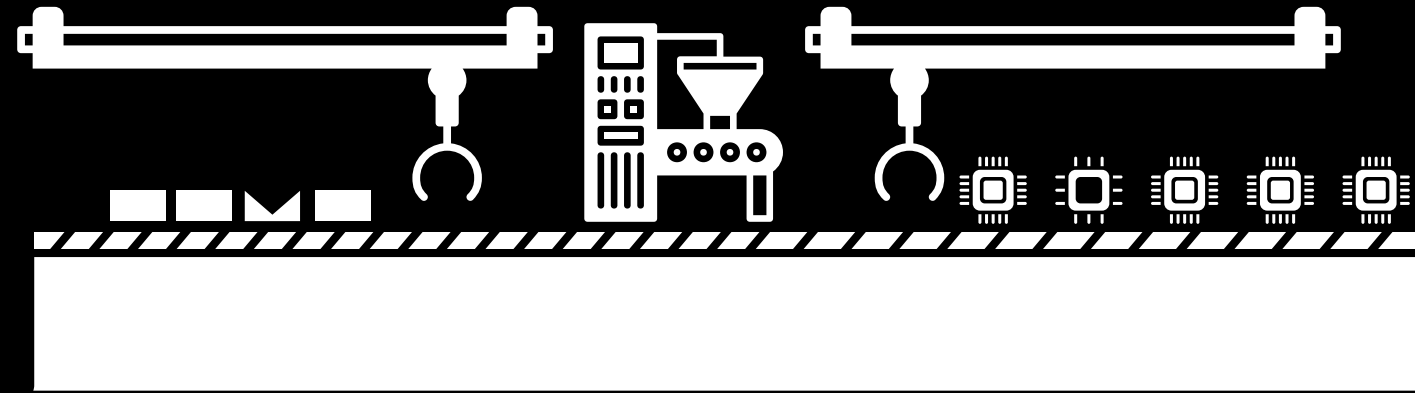


# Customer Support Automation

# Manufacture

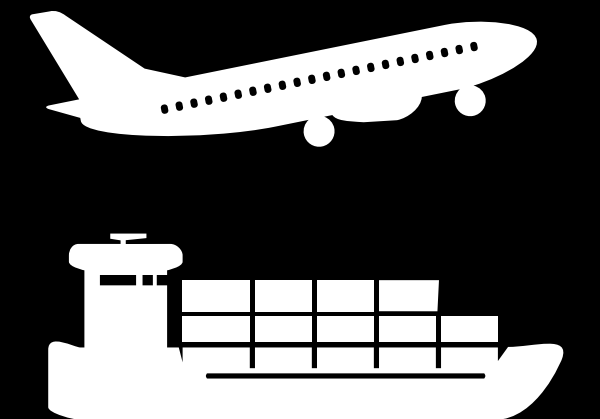
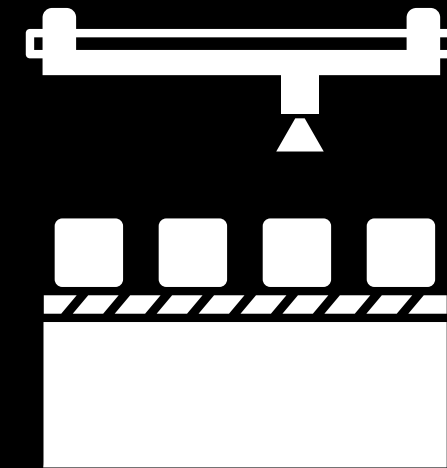
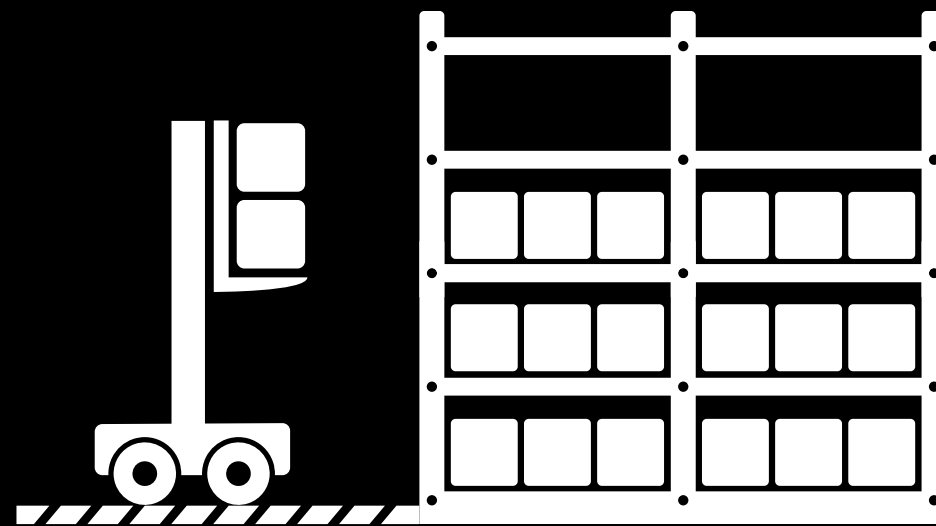
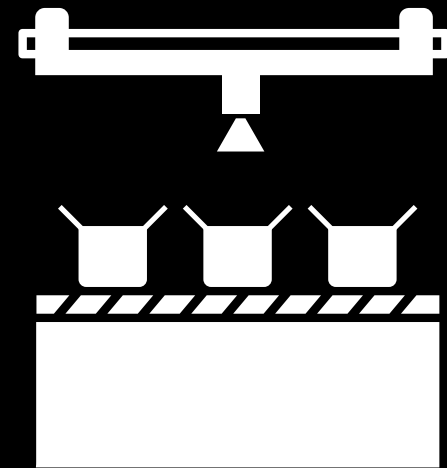
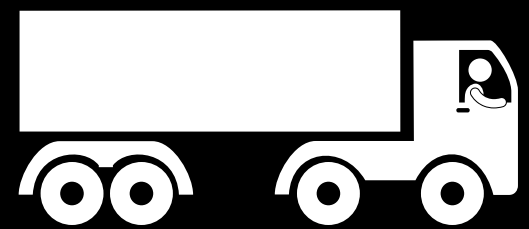


# Manufacture

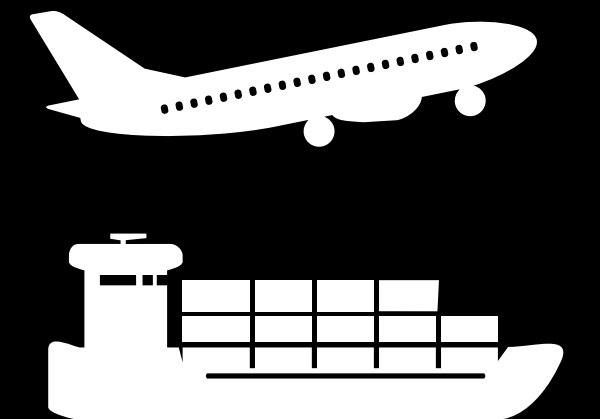
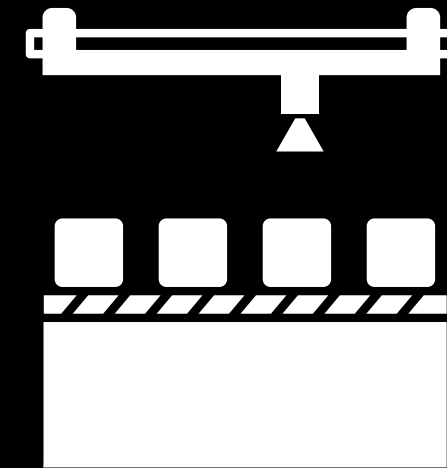
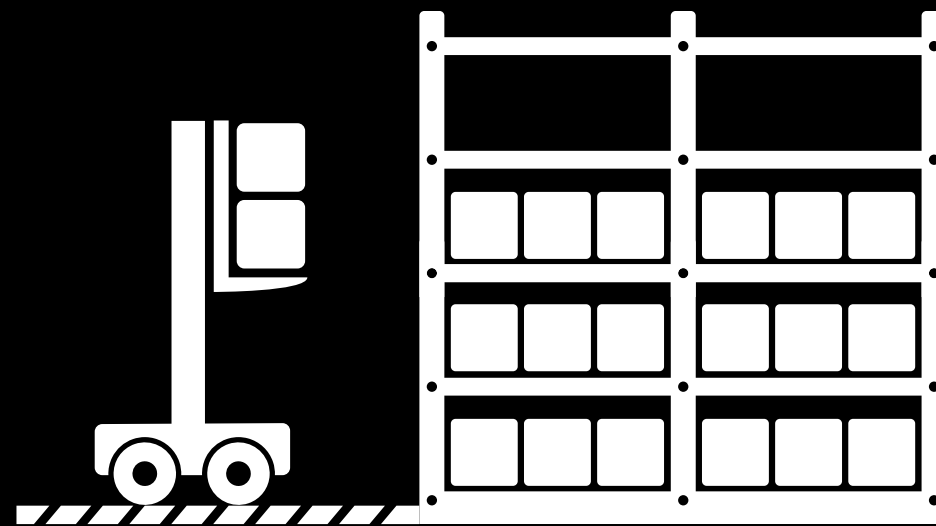
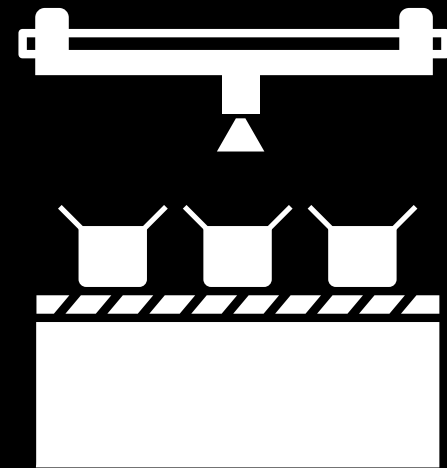
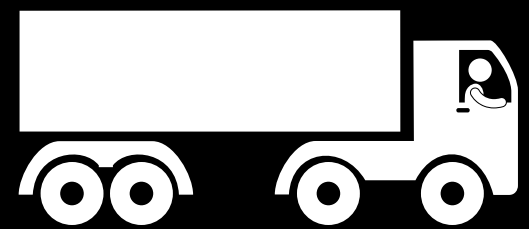




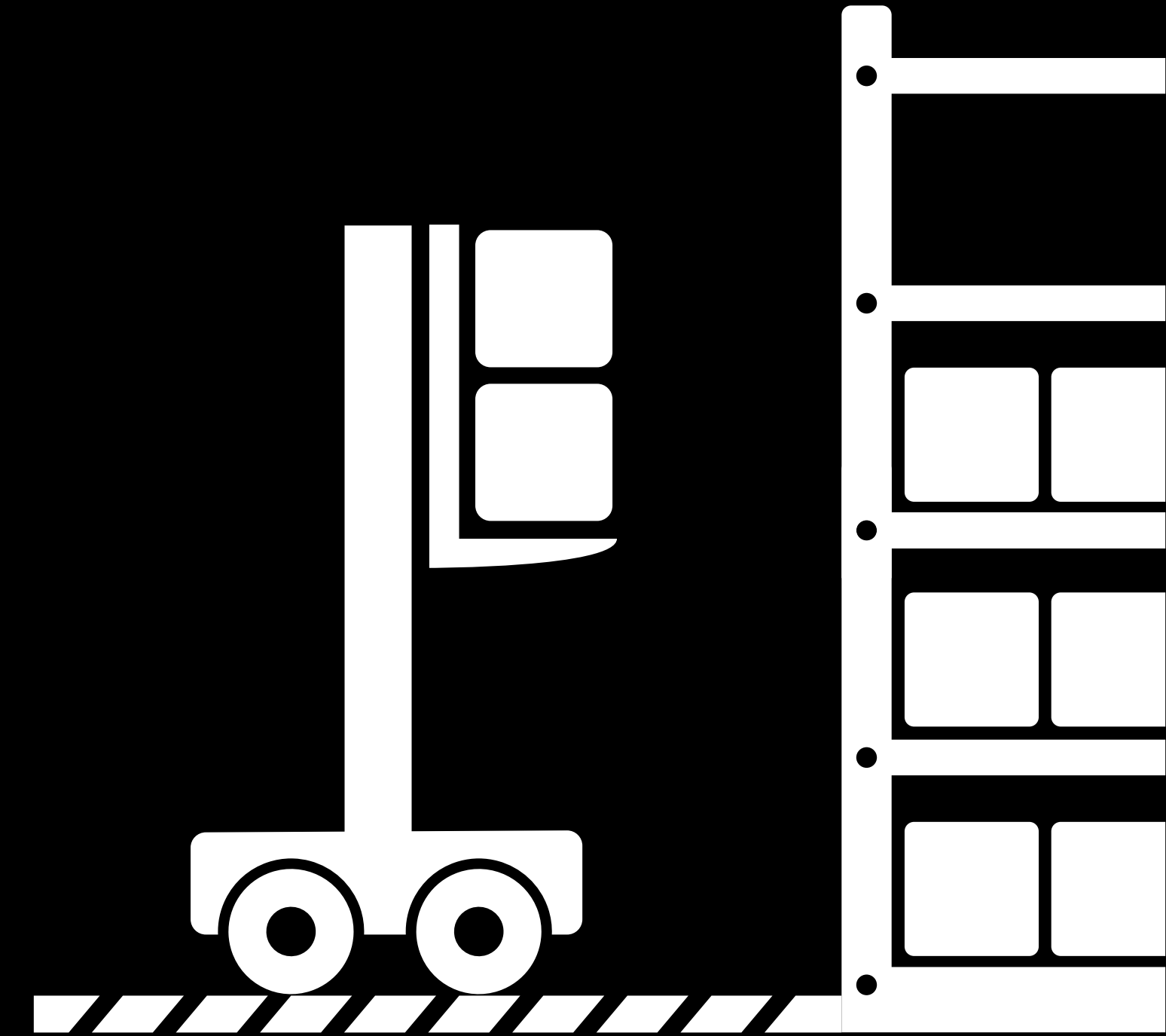
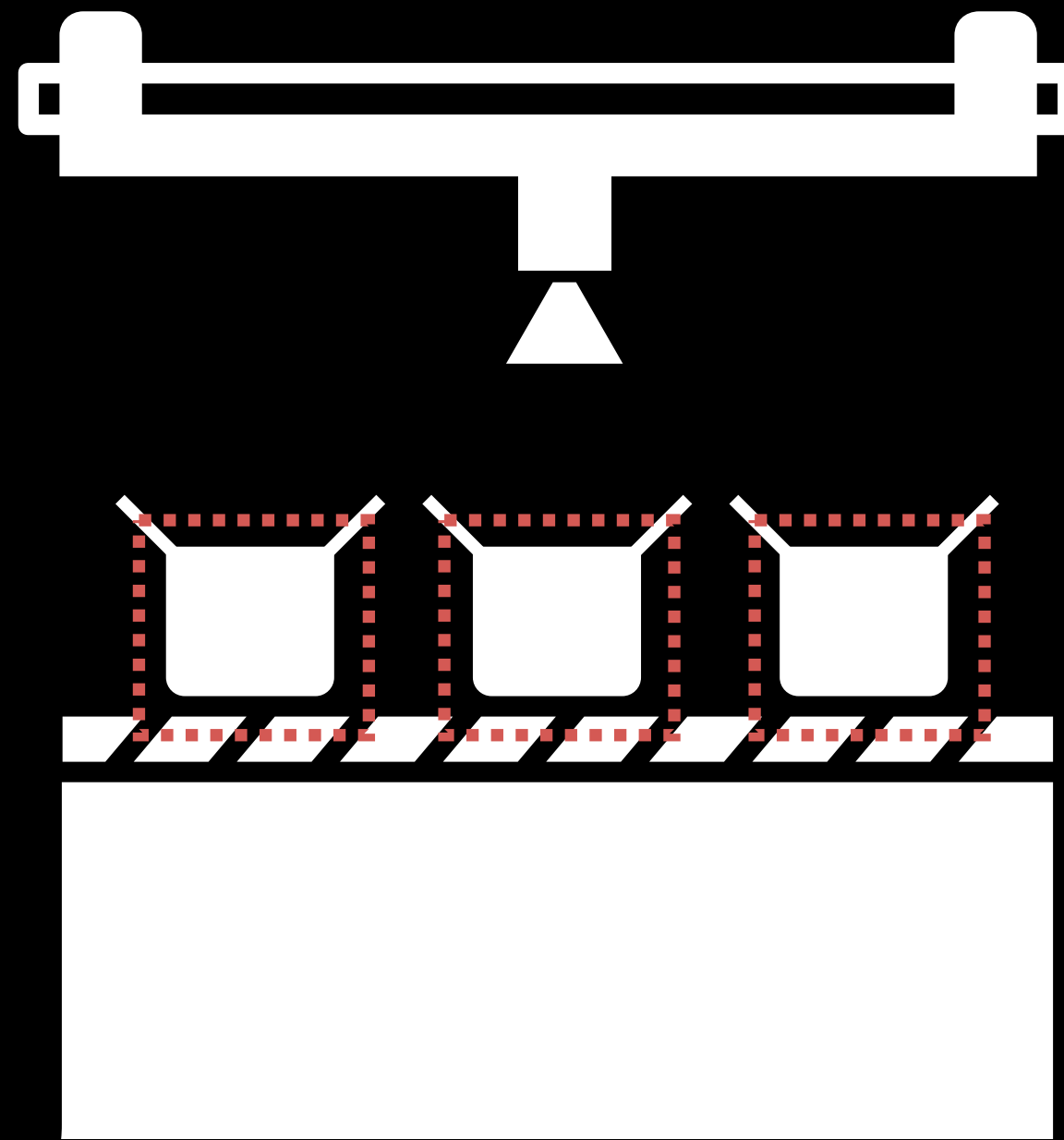
# Logistics



# Logistics

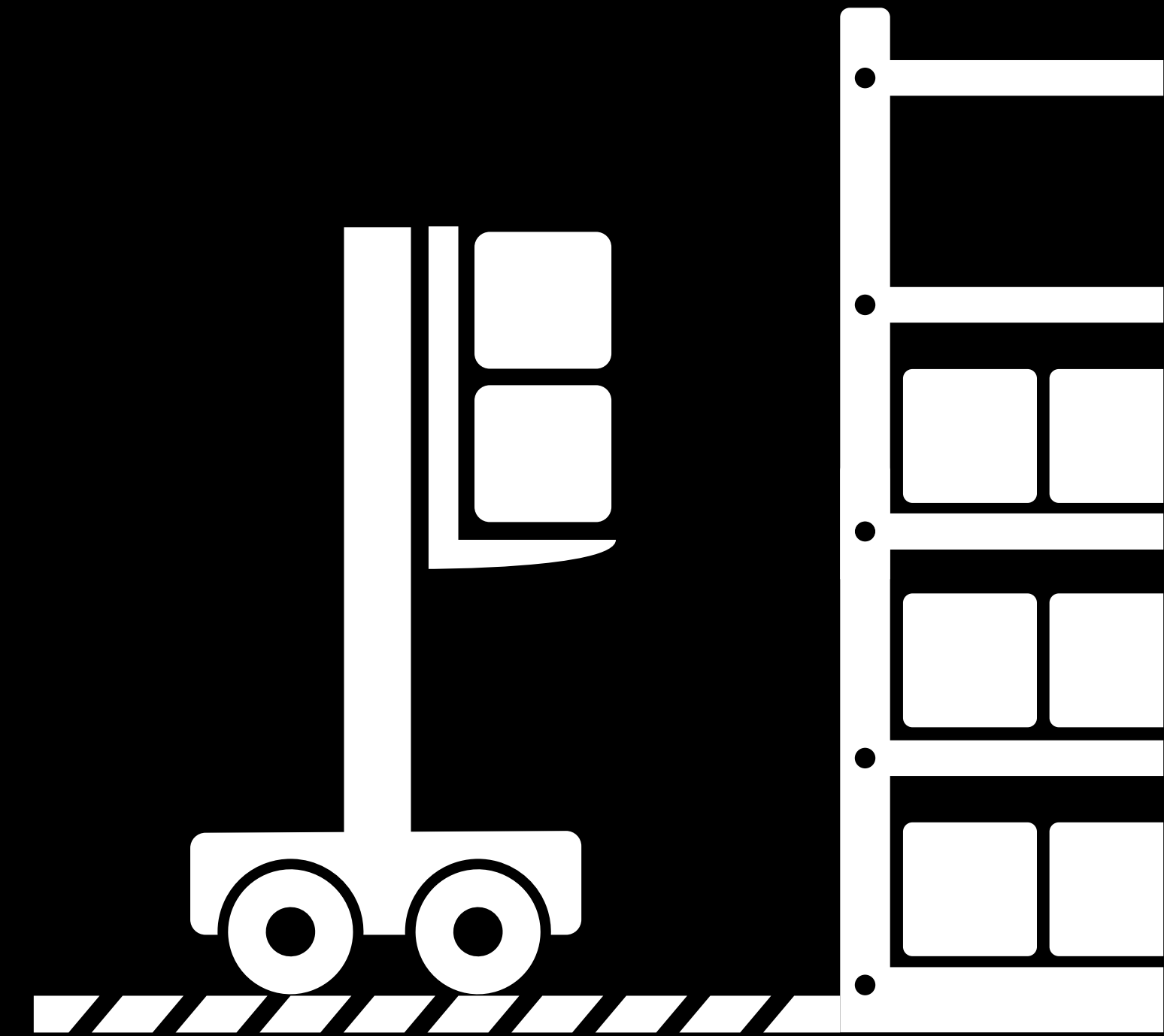
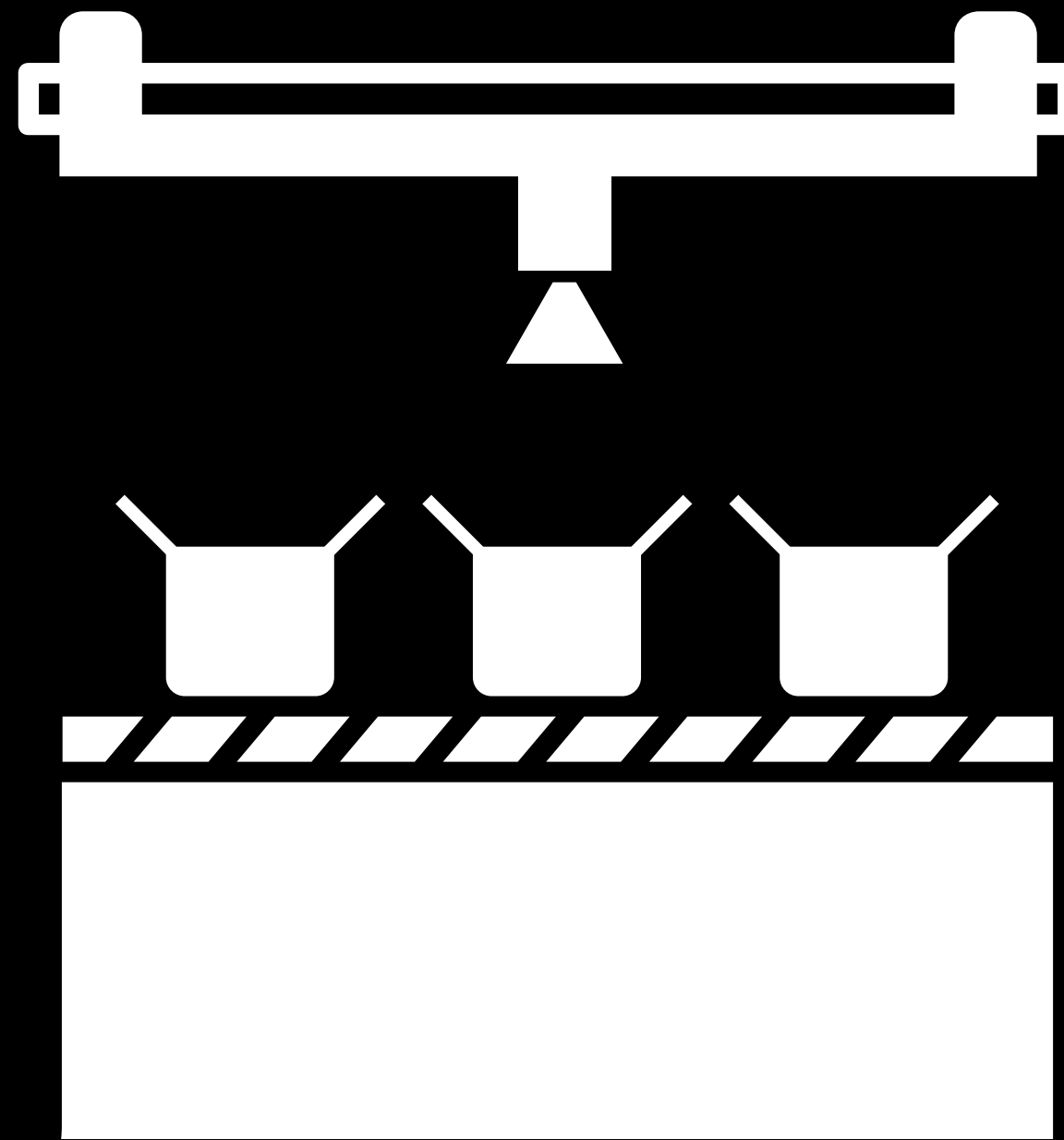


# Logistics



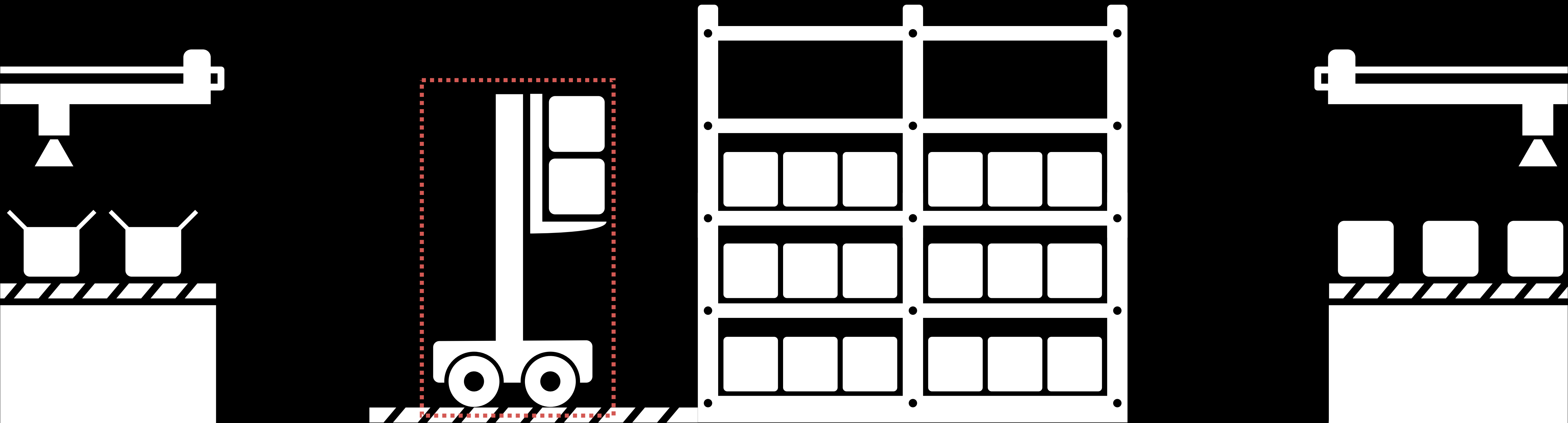
# Inspection Automation

# Logistics



# Inspection Automation

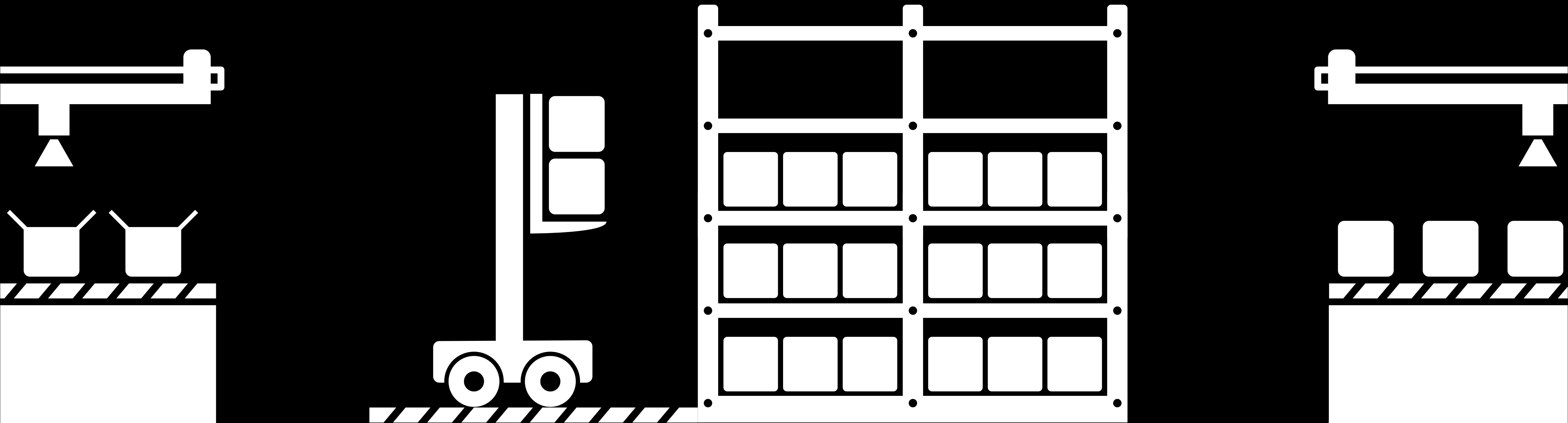
# Logistics



## Auto Picking

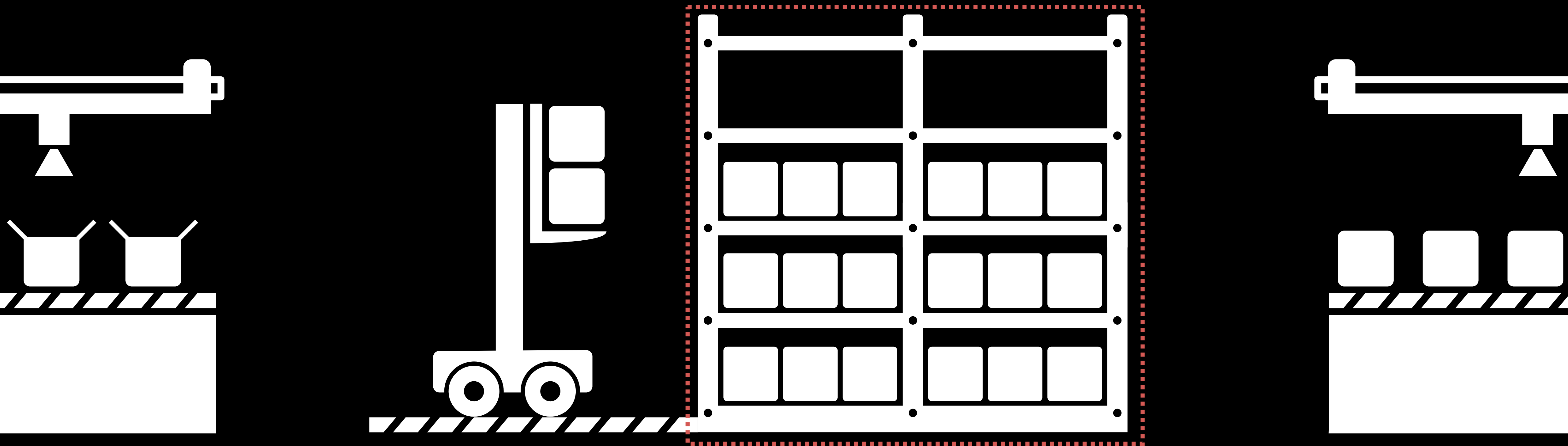


# Logistics



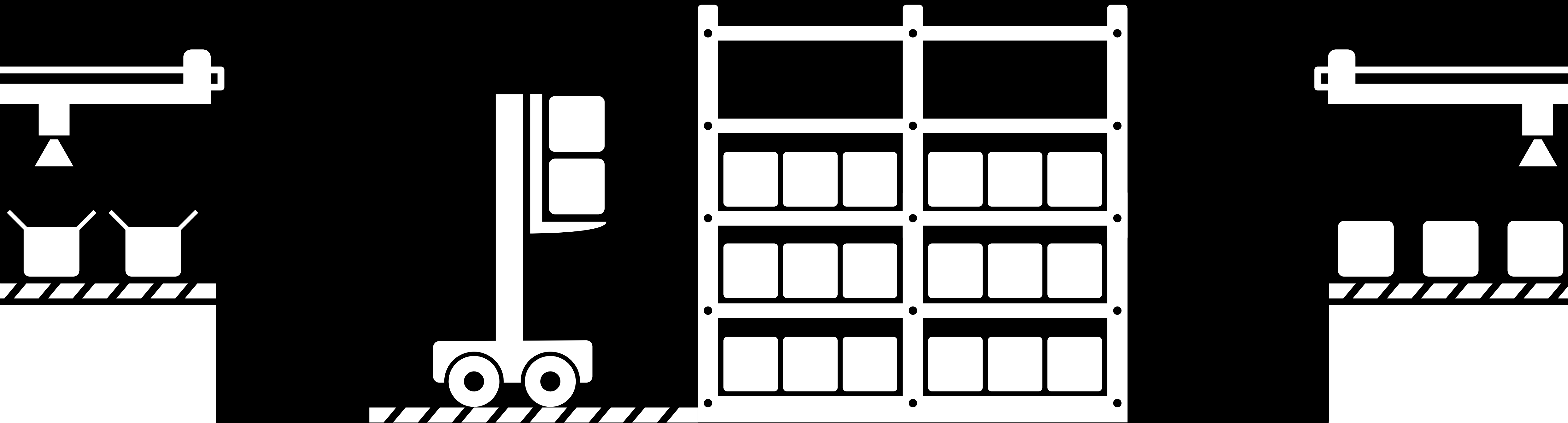
## Auto Picking

# Logistics



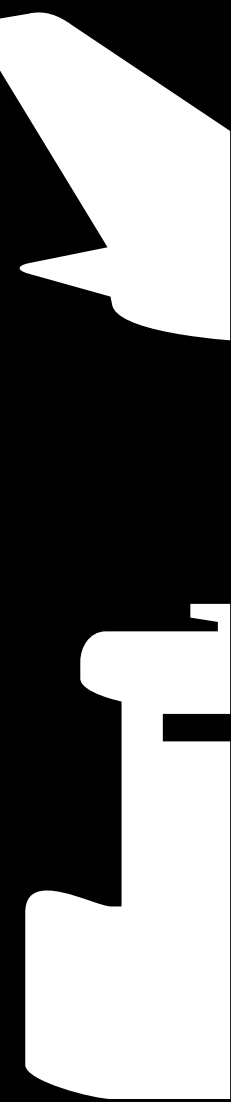
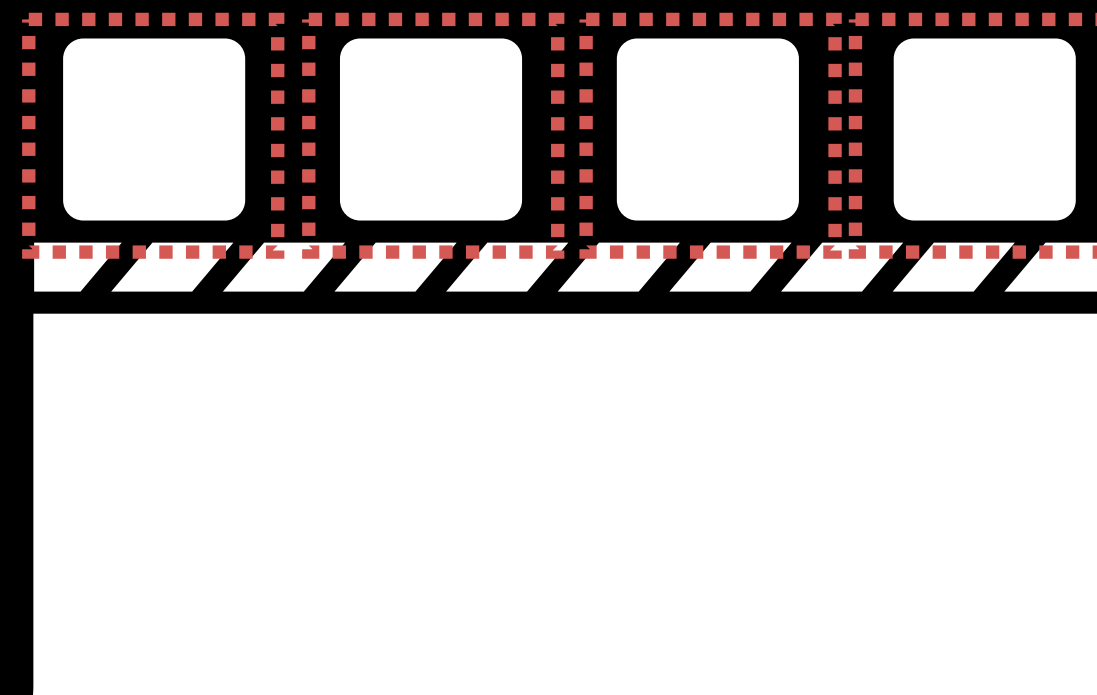
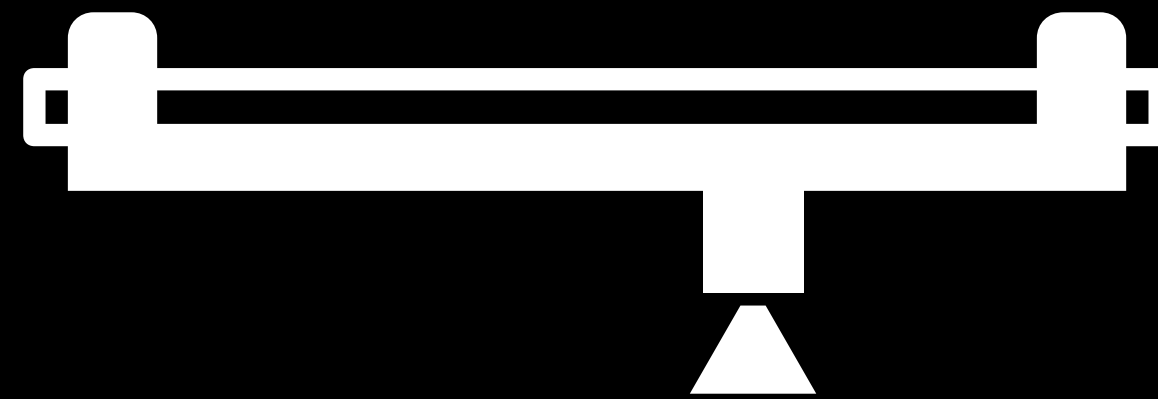
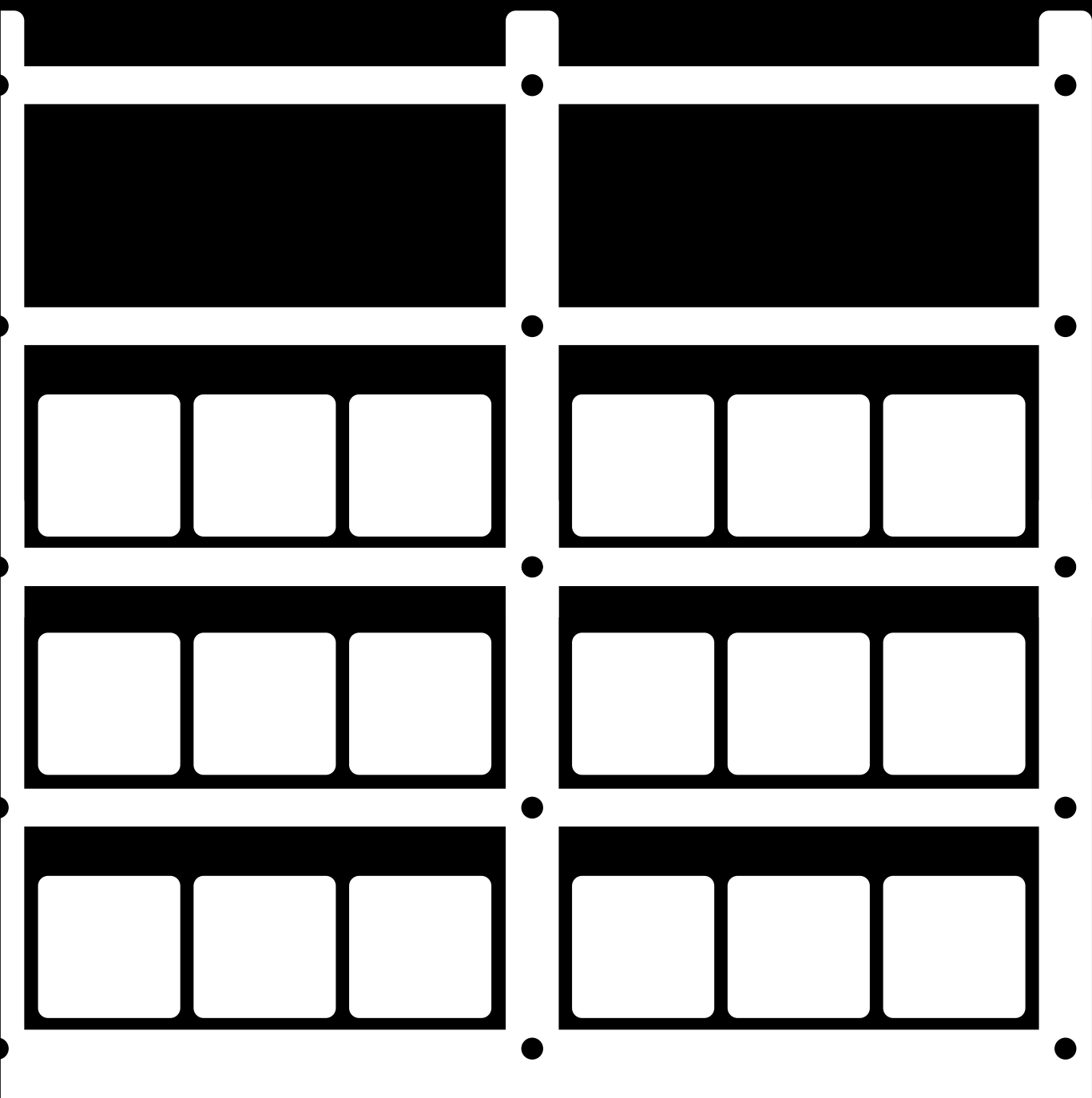
# Shelf Optimization

# Logistics



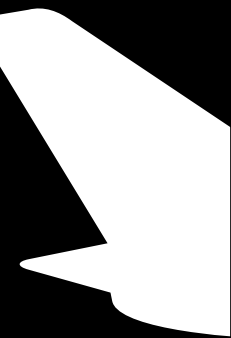
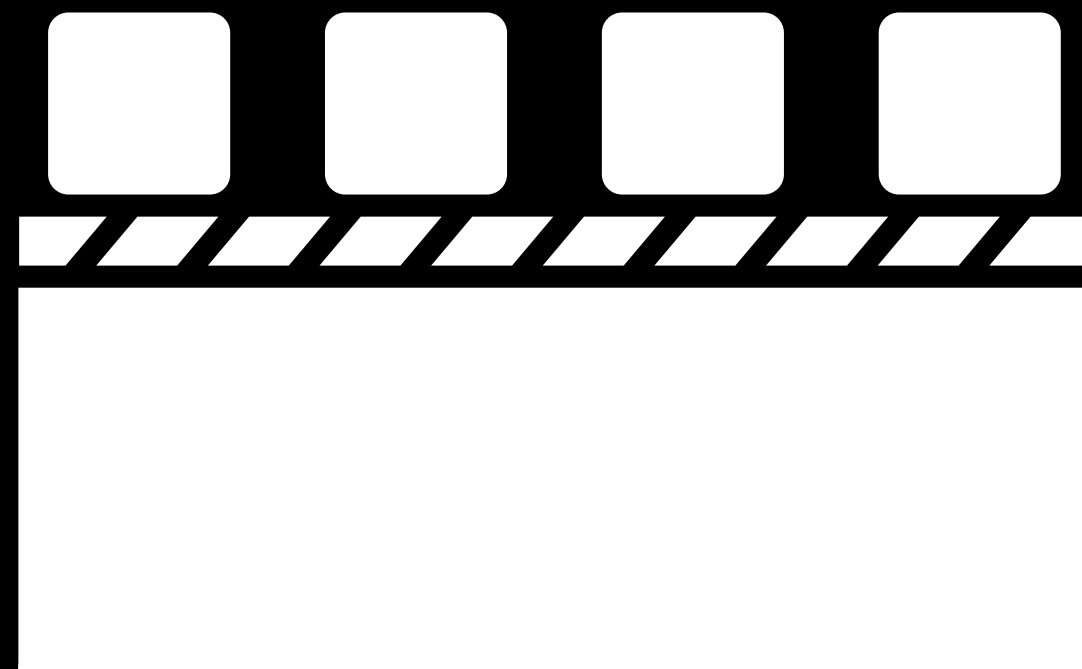
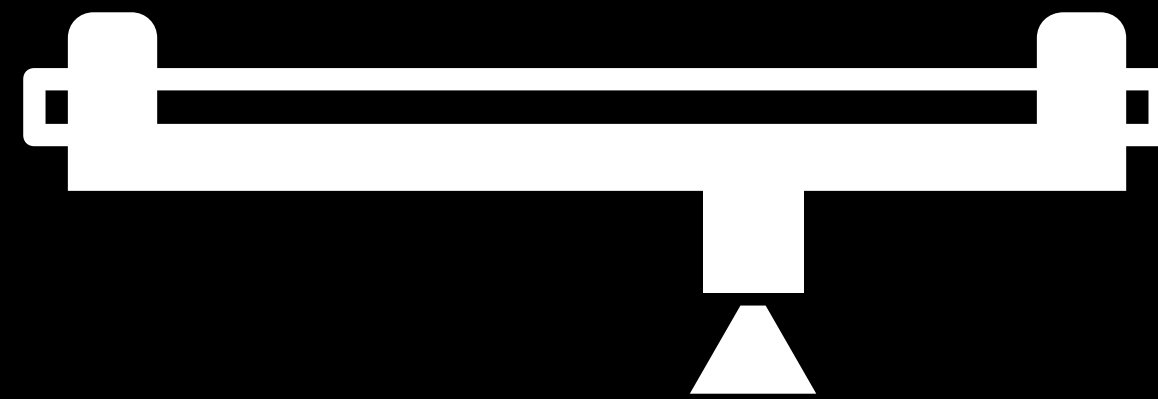
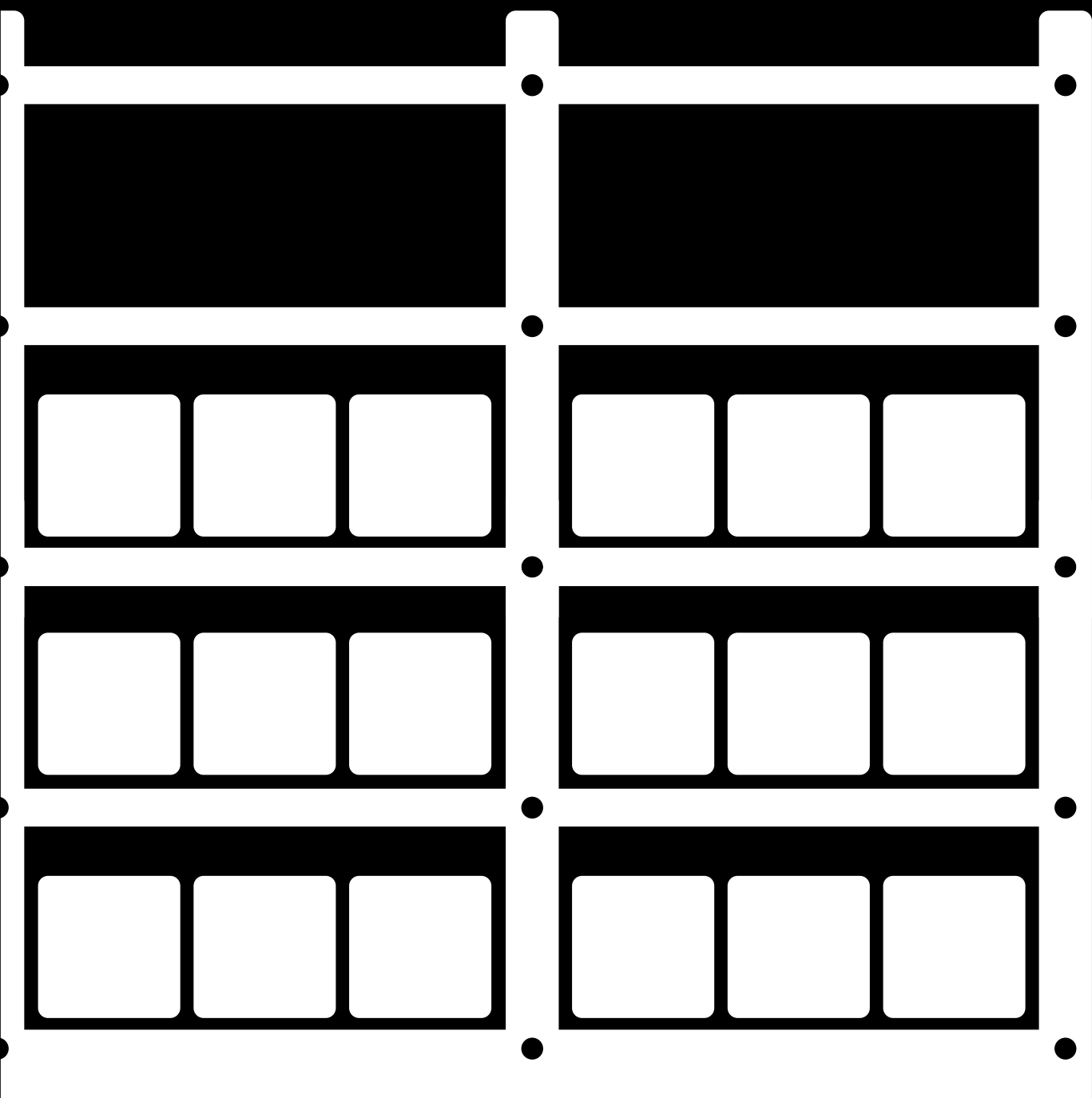
# Shelf Optimization

# Logistics



# Shipment Inspection

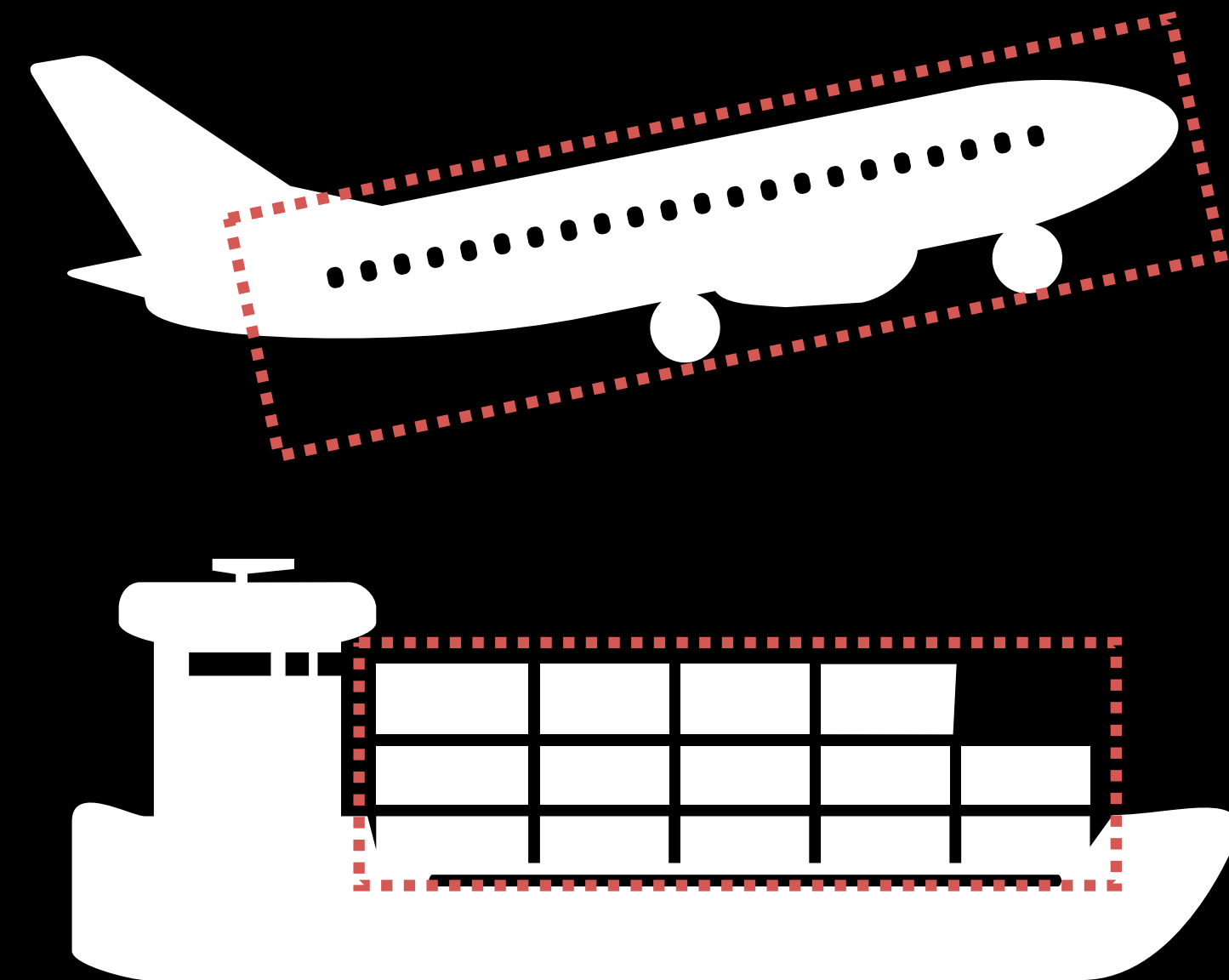
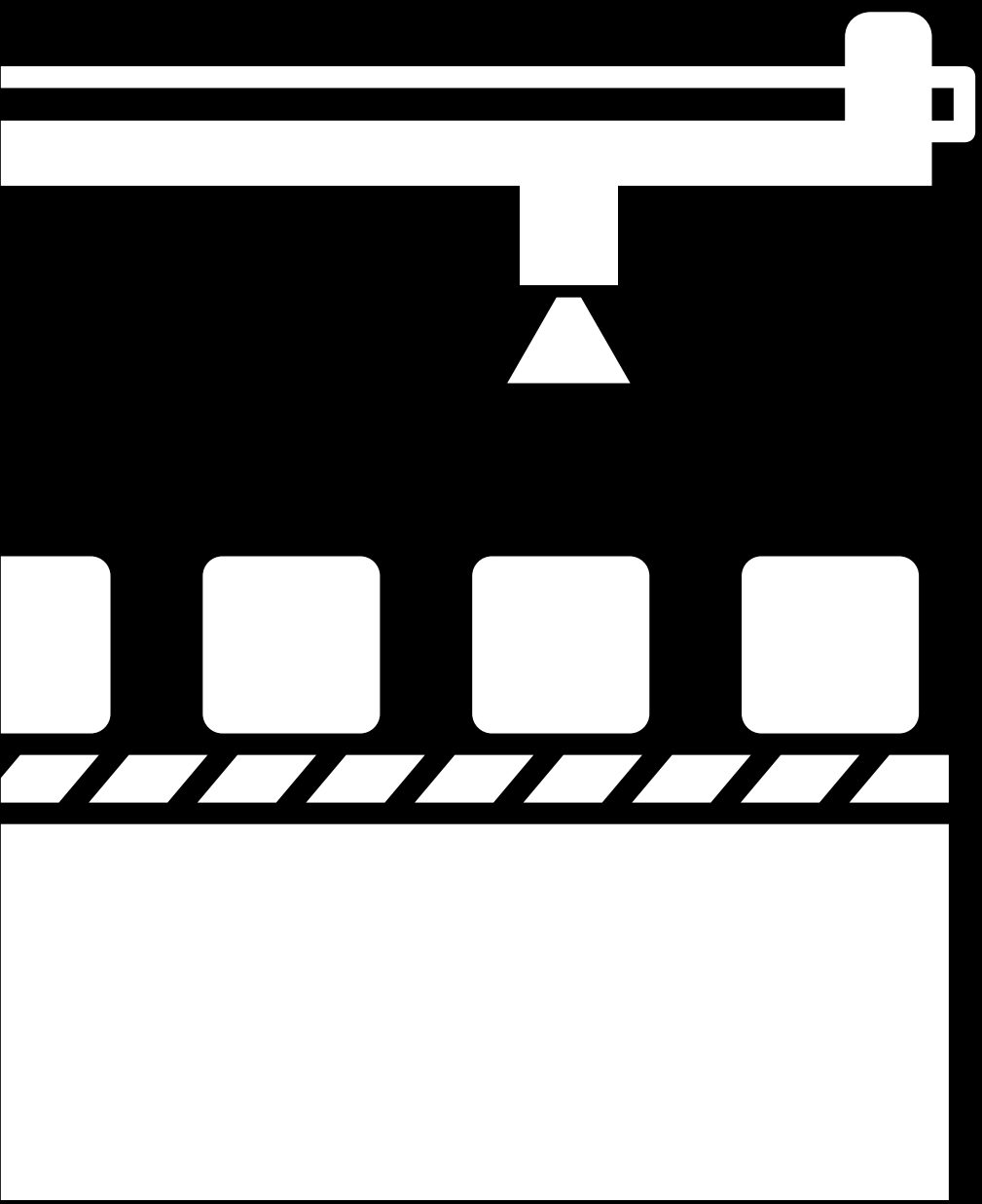
# Logistics



# Shipment Inspection

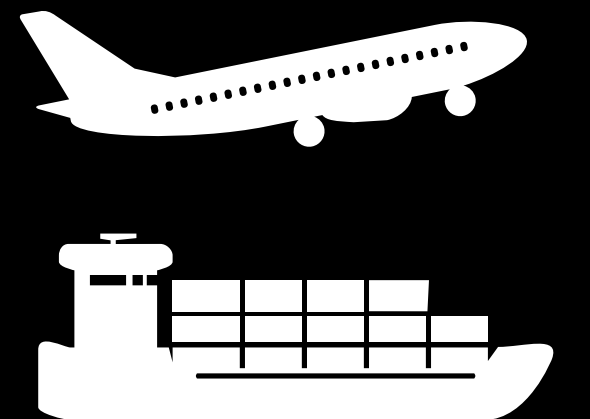
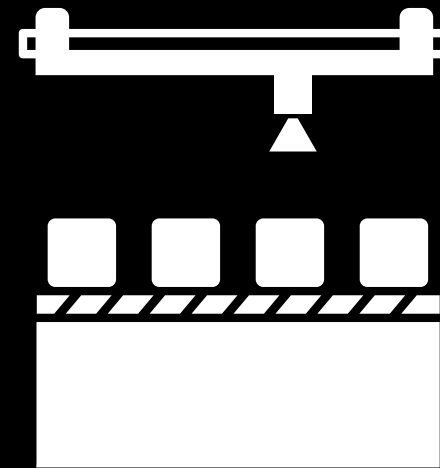
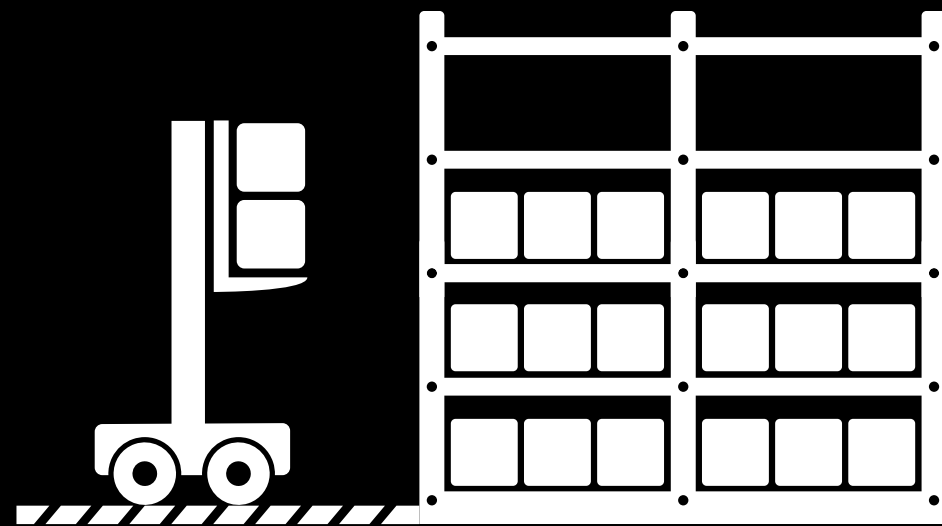
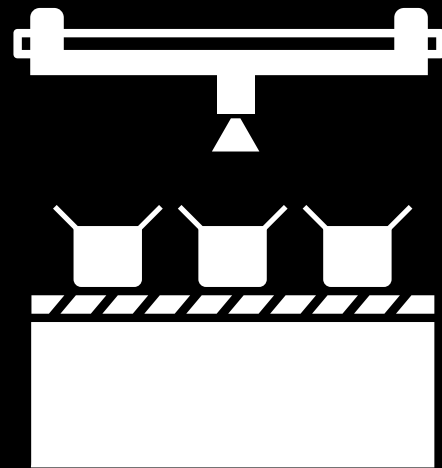
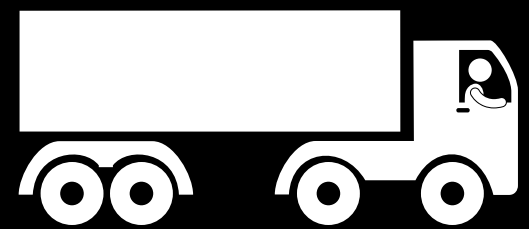


# Logistics

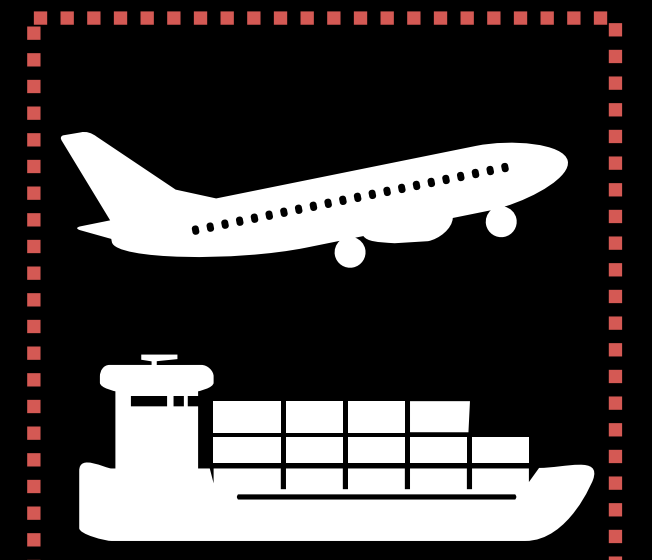
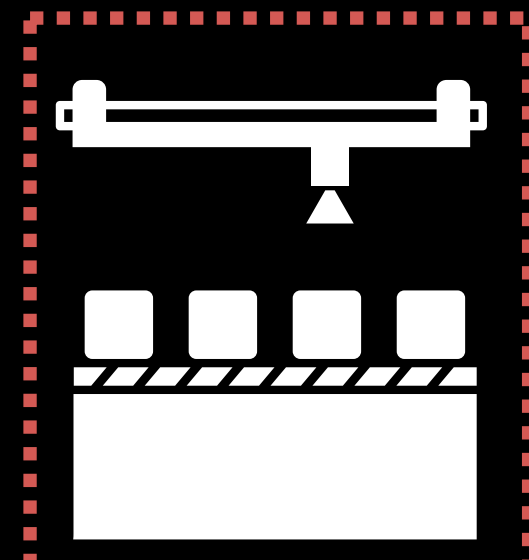
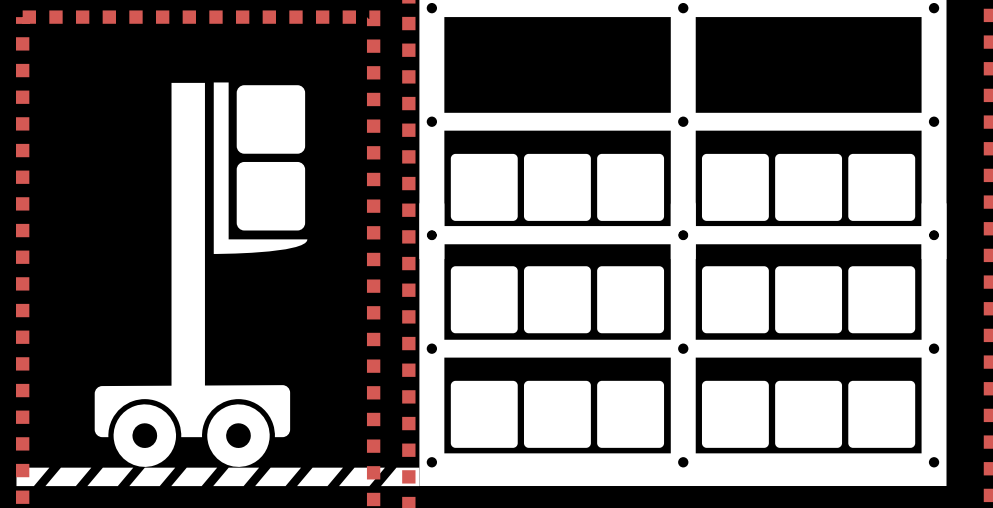
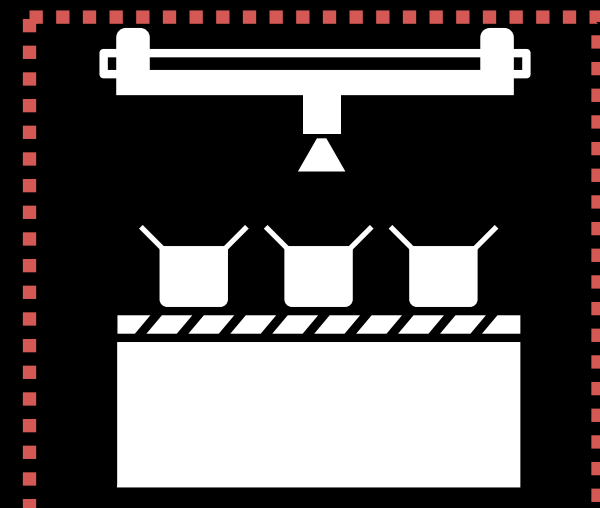
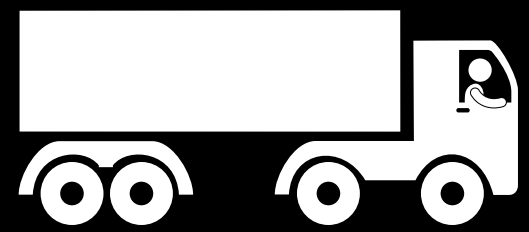


## Quality Control at Delivery

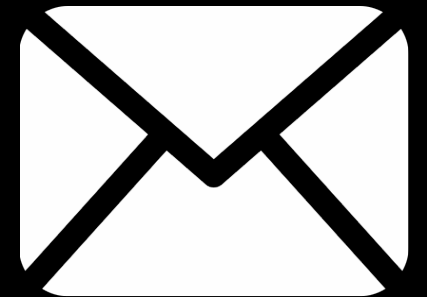
# Logistics



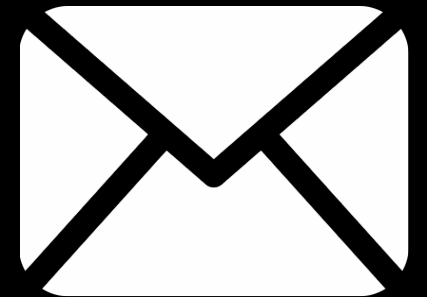
# Logistics



# Retail



# Retail



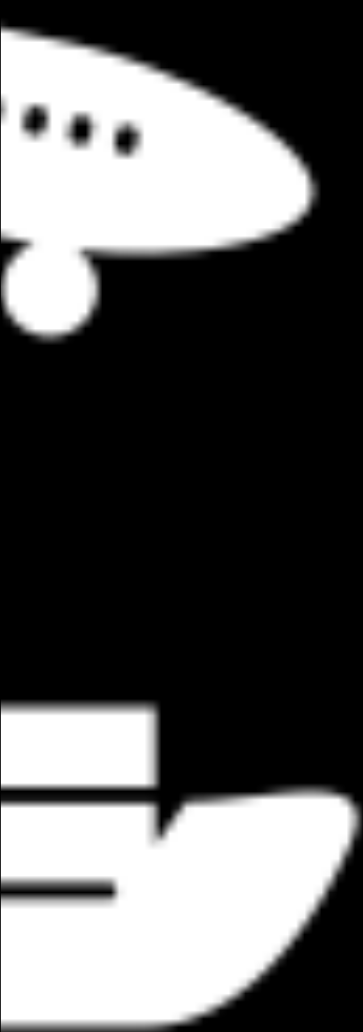


# Retail



## Quality Control at Delivery

# Retail



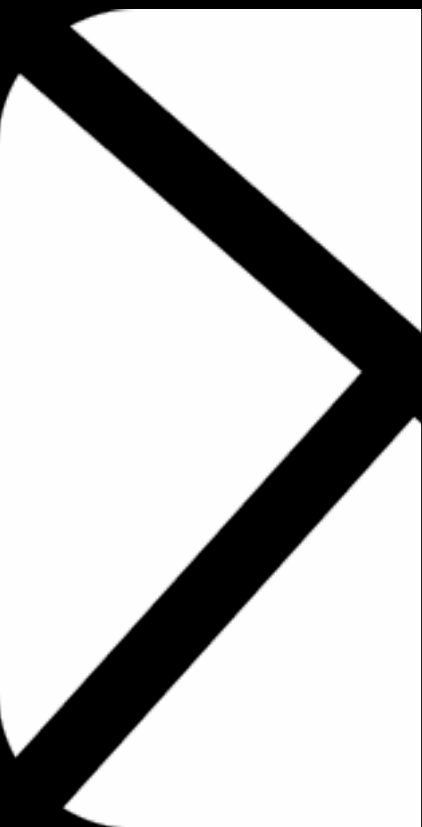
# Optimization Working Shift at Logistics

# Retail



# Optimization Inventory & Stock

# Retail



# Optimization Store Operation

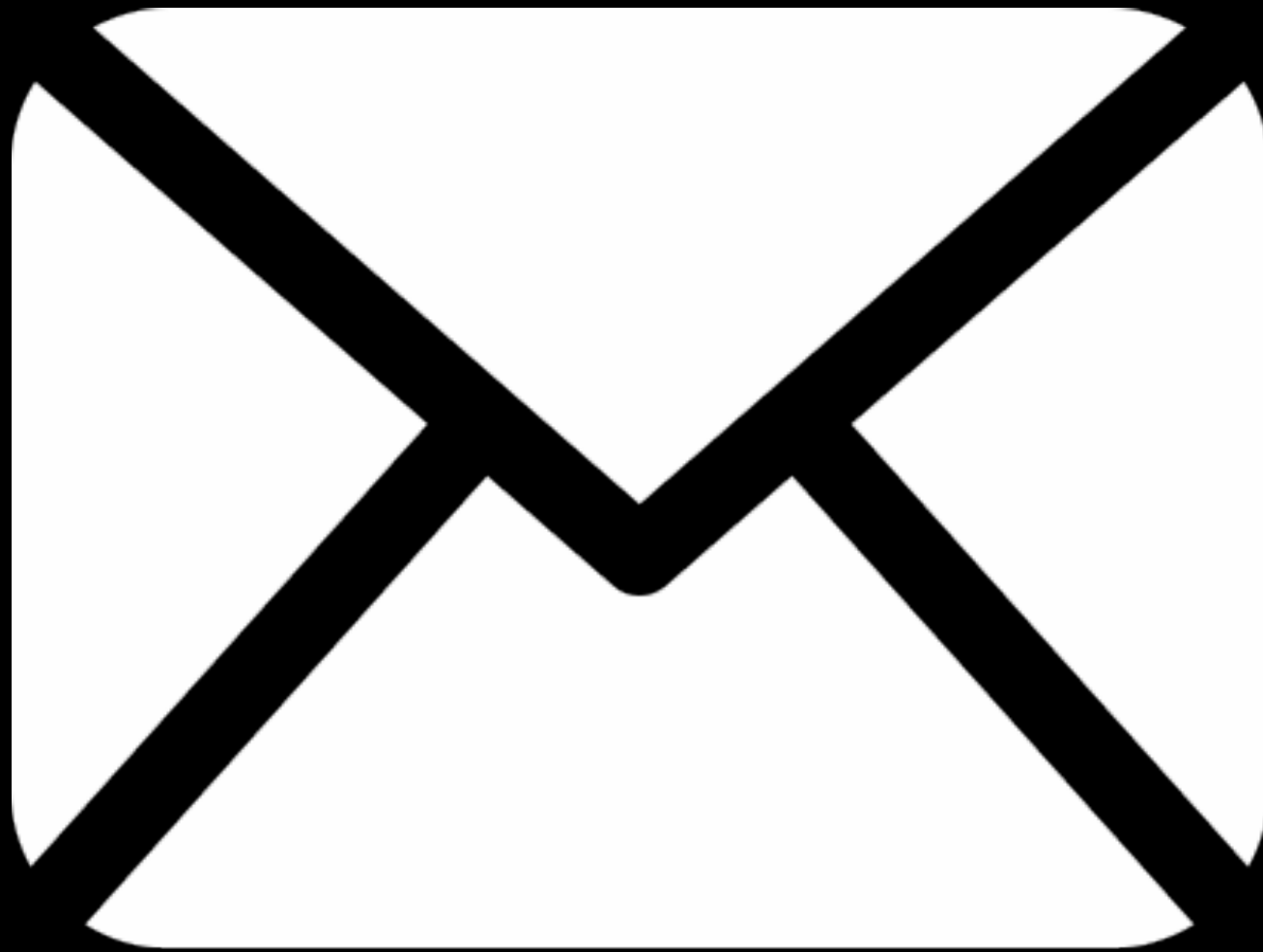
# Retail



**ABEJA**  
**PLATFORM**  
for Retail

# Optimization Store Operation

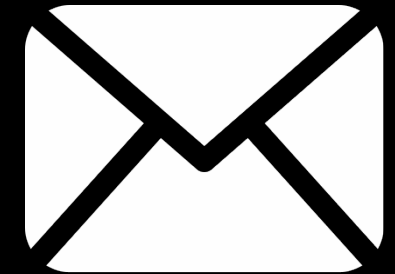
**Retail**



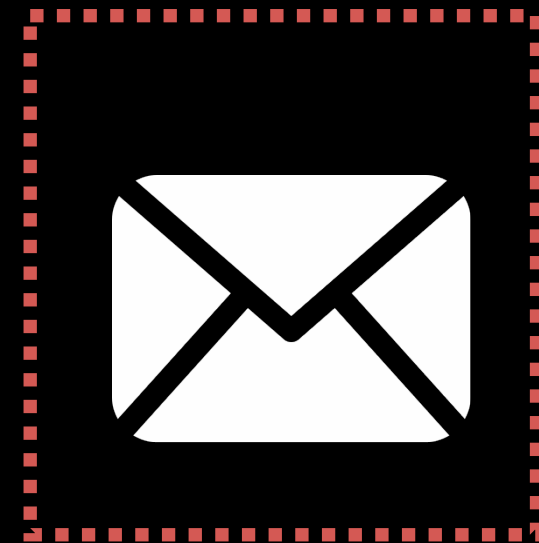
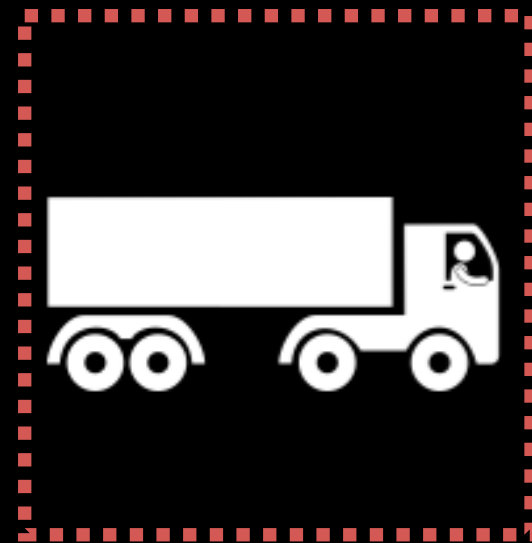
**Marketing**



# Retail



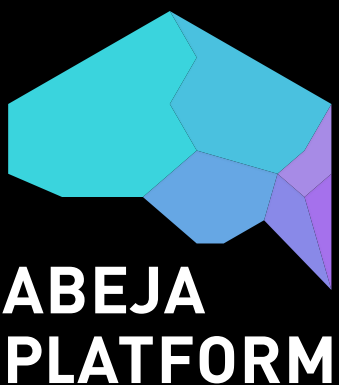
# Retail



Client



Client



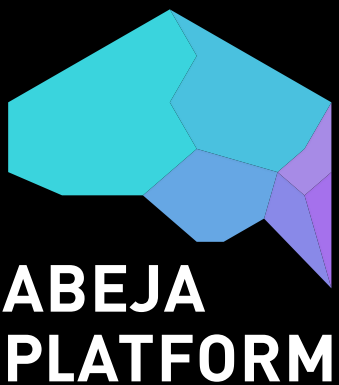
Client



Partner

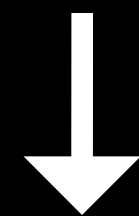


Client



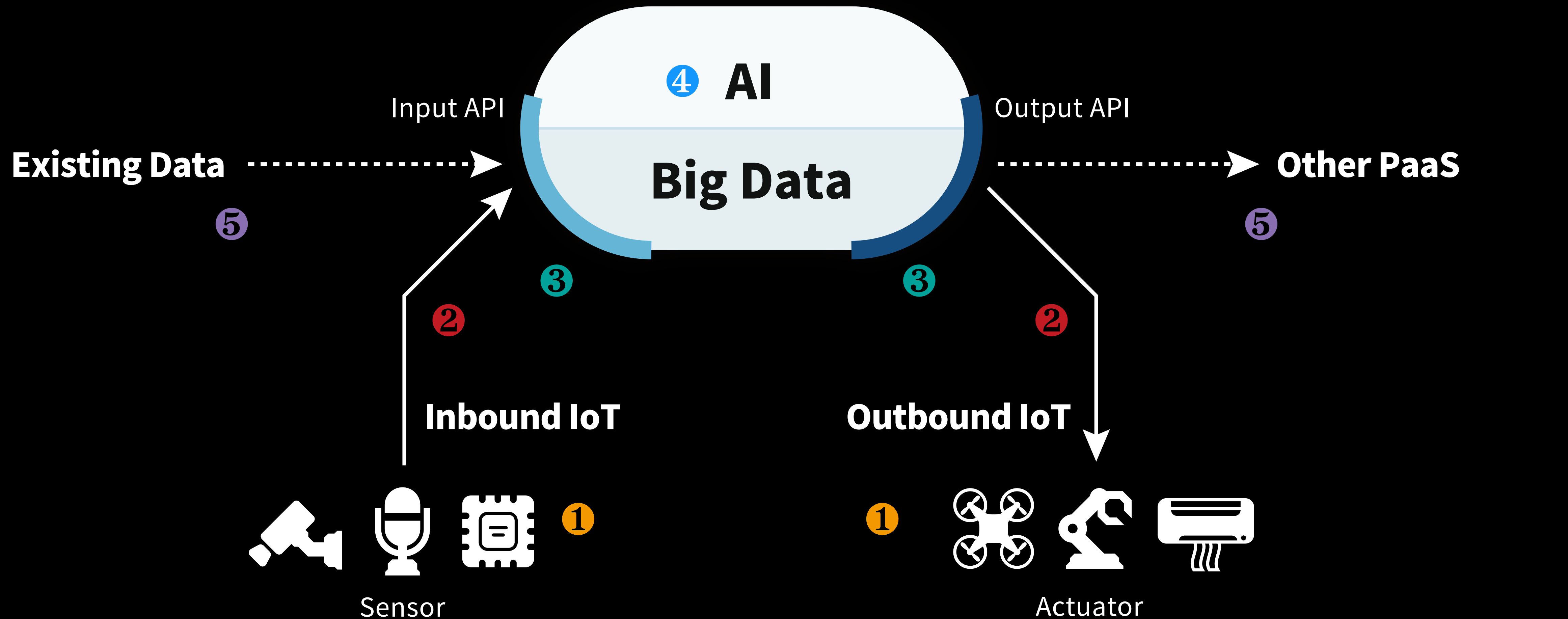
**in Feb**

**Closed in ABEJA**



**Opened for ALL**

# ABEJA Platform Partner Ecosystem









# ABEJA Platform Training Course



ABEJA  
PLATFORM

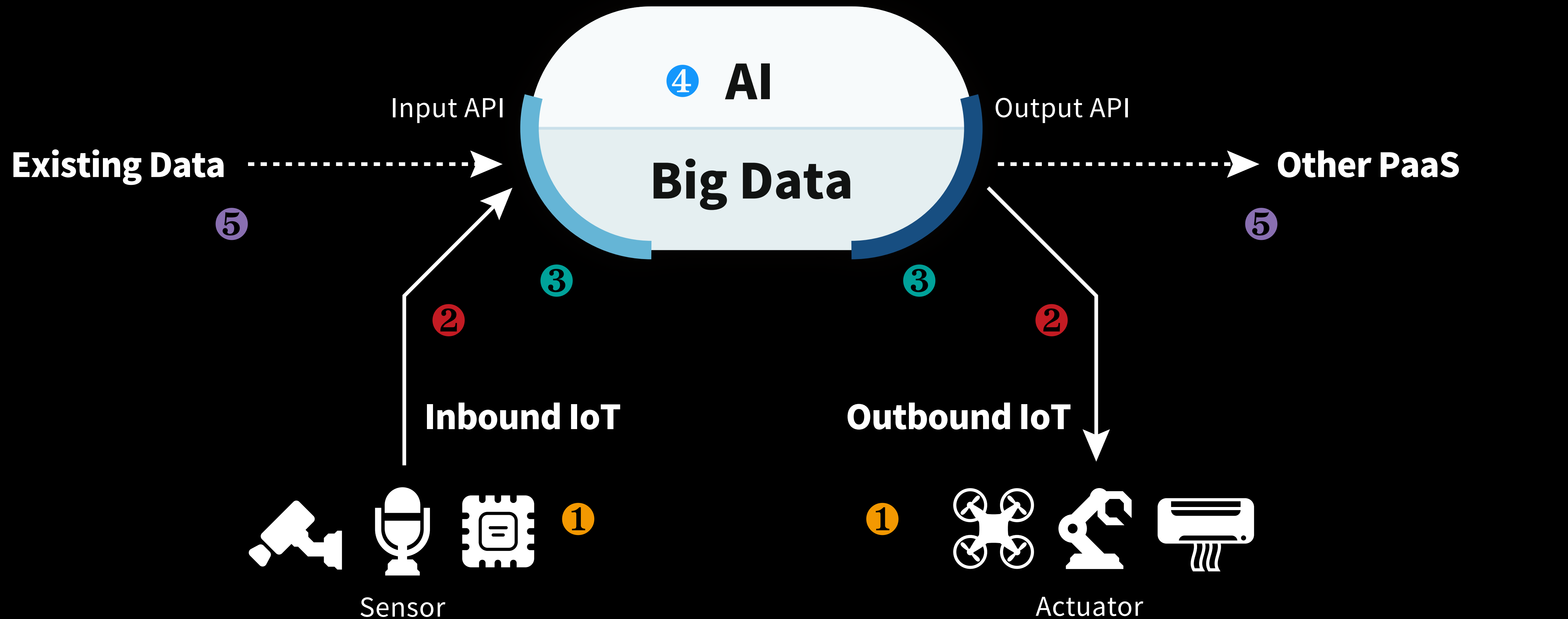
**Certified  
Partner**

ABEJA Platform Partner Ecosystem





# ABEJA Platform Partner Ecosystem



① IoT Device Partner

② IoT Network Partner

③ System Integration Partner

④ Consulting Partner

⑤ API Economy Partner



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# Thanks



## Innovation that Changes the World