

**CAMUNDA  
CON  
2022**

# Opening Keynote

Jakob Freund

OCTOBER 5, 2022



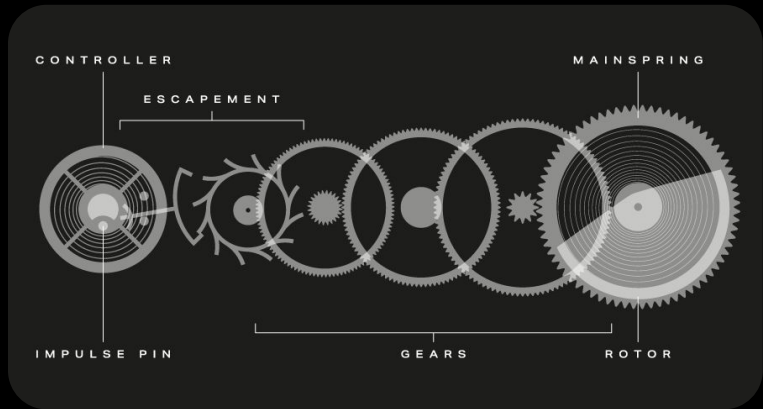
Welcome to

A large, dark, circular graphic with a textured, particle-like border in shades of orange and black. Inside the circle, the text "CAMUNDA CON 2022" is displayed in white.

**CAMUNDA  
CON  
2022**







The whole is greater than  
the sum of its parts.

~~Aristotle~~

Actually not!



## Aristotle, *Metaphysics* 8.6 [=1045a]

“Concerning the challenge we just faced about how to describe things in numbers and definitions, What is the reason for a unity/oneness? For however many things have a plurality of parts and are not merely a **complete aggregate** but instead **some kind of a whole beyond its parts**, there is some cause of it since even in bodies, for some the fact that there is contact is the cause of a unity/oneness while for others there is viscosity or some other characteristic of this sort. But a definition [which is an] explanation is one [thing] not because it is bound-together, like the *Iliad*, but because it is a definition of a single thing.

# Agenda



1

## Why Process Orchestration

When Automation breaks

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2

## What is Process Orchestration

Dealing with Endpoint Diversity and Process Complexity

---

3

## The Bigger Picture

Process Orchestration and the Automation Market

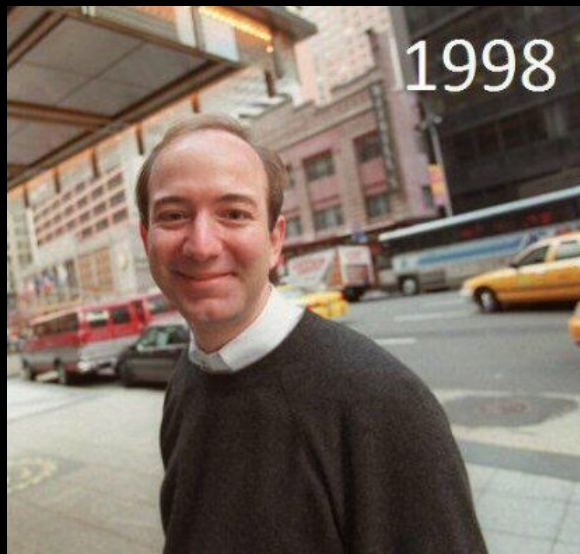
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4

## Camunda Product Vision

Accelerating your Path to successful Process Orchestration



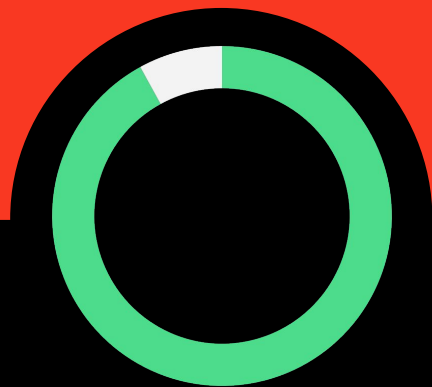


# Are You the Amazon of your Industry?



92% of decision  
makers agree:

**Process Automation  
is the key to Digital  
Transformation.<sup>1</sup>**



Source: *State of Process Automation 2022 Report*, n = 606 IT decision makers involved in process automation in North America and Europe.

<sup>1</sup> Question: To what extent do you agree or disagree with the following statement: "Process automation is a vital element of digital transformation"?

<sup>2</sup> Question: Which of the following components are included as part of a typical process automation implementation within your organization?



**A tech startup's situation**



**Your company's situation**

# Many organizations automate processes



... but on a local level / not in their core processes:

**Example:** HR System



**Automate the approval of employee time off** by flagging when the HR leader or line manager needs to approve. -----

----- Once approved, **the software would deduct the time off from the employee's accrued total.**

# The Problem

Disconnected “parts” lead to local, isolated automation:



## People

Within a team or  
department in a smaller  
subset of people



## Software/Systems

Within a single software  
system



## Devices

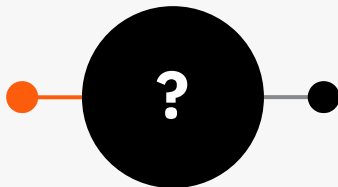
On a specific  
physical device

# The Result



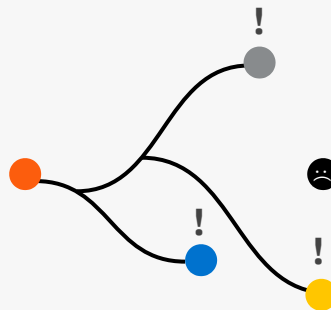
## 1. A broken end-to-end automation

Local automations are not integrated with one another, the end-to-end process is not fully automated.



## 2. Lack of understanding

The end-to-end process is not fully visible and key metrics are hard to track.



## 3. Lack of flexibility

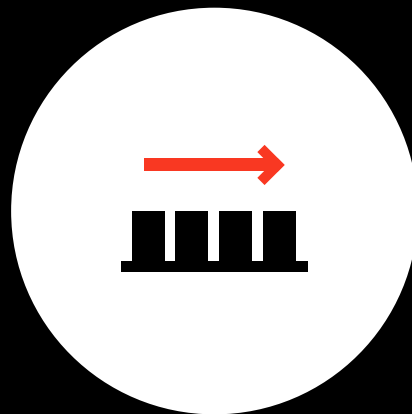
Changing the end-to-end process is difficult since it leads to potential changes in many different systems.





## Aspiration

Amazon-levels of  
automation **where processes**  
**run seamlessly**



## Reality

Dealing with a complex mix  
of systems is a **harsh**  
**reality**



So how can we **achieve this?**

# Example: Decathlon



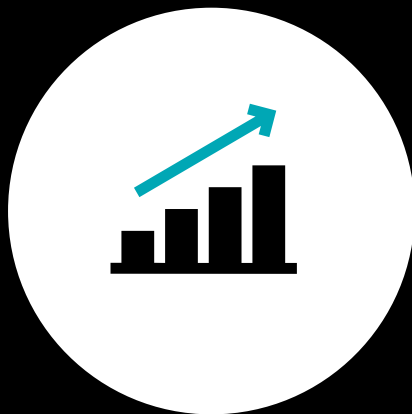
- Decathlon (largest sporting goods retailer in the world) needed to transition from monolithic to microservices to better support its global presence of 1700 stores across 70 countries.
- The processes for their retail management system are complex and require parallel processing.
- At any given moment, the payment system is confirming payment has been received, fulfillment is notifying that a product has been shipped and returns are being processed.
- The complexity across geographies was great, f.ex. cash on delivery in Eastern Europe is far different from credit card processing.
- However by embracing the right patterns, Decathlon was able to achieve exactly what they set out to with Camunda.



**Learn more:**

**Today (Oct 5)**

**2:10pm CET**



Let's have a look at process  
**orchestration** and how you can fix  
process **automation**.

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# Process Orchestration: The Basics



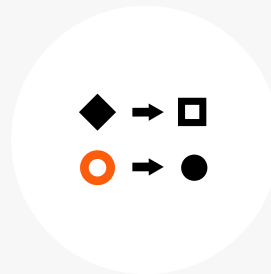
**A Process  
consists of **Tasks****

In order to execute the process, you need to coordinate the execution of its tasks.



**Tasks are Executed  
by **Endpoints****

Can be people, (software) systems, or (physical) devices.



**Coordination of Tasks  
follows a **Flow Logic****

The flow logic represents the actual business process.



## Diversity and Complexity

Many products that claim to automate processes are unable to handle the very real complexity of real world processes.

### Endpoint Diversity

#### Endpoints

There is a huge number of possible endpoint types required for processes.

**The more diverse the endpoints, the more difficult it is to integrate them.**



#### Flow Logic



For proper end-to-end process orchestration you must be able to accurately express all the things happening in your business processes.

**This requires workflow patterns that go beyond basic control flow patterns**

### Process Complexity



# Endpoint Diversity

# Examples of Process Endpoints

Human Work

AI

Business Rules

Microservices

RPA

API

IoT

⋮

⋮

⋮

⋮

⋮

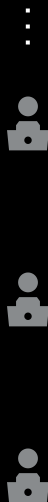
⋮

⋮



# Low Endpoint Diversity: Multiple Endpoints of the **same** Type

Human Work



AI



Business Rules



Microservices



RPA



API



IoT



# High Endpoint Diversity: Multiple Endpoints of **multiple** Types

Human Work

⋮



AI

⋮



Business Rules

⋮



Microservices

⋮



RPA

⋮



API

⋮



IoT

⋮



Process  
Orchestration



# Example: Desjardins



- Gaining insights and control over business processes is a C-level directive: **deliver better experiences for customers and employees**
- Limited by a legacy BPMS that lacks the flexibility and insights needed to drive their transformation
- Transitioning to Camunda to orchestrate omnichannel end-to-end business processes across all lines of business (f.ex. insurance, wealth management and banking services divisions)
- 19 hybrid processes that **span people and systems including 30 endpoints that they connect to**
- Utilize advanced workflow patterns (f.ex. Message exchange, parallel tasks, separation of duties)



**Learn more:**

**Tomorrow (Oct 6)**

**2:10pm CET**

# Process Complexity

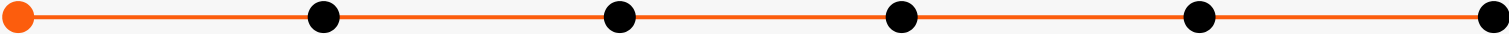


# Example: Order Processing





# Example: Order Processing



**Your order can consist of just one position, or many positions— like a dozen or so.**

**The store wants to process all your order positions in parallel**

i.e. they will assign tasks to a number of warehouse pickers in parallel, so that they pick up the products simultaneously, which leads to a faster shipment of your delivery.

**However:** if you go the website right after you've ordered and cancelled your order, this pick up process has to be redone.

**But let's assume you're fine and just excitedly expecting your delivery.**

**With your delivery, you will also receive an invoice which you're supposed to pay within 10 days.**

**If you haven't paid after 10 days, the store will send you a reminder**

(and patiently continue to send reminders, until you've paid the invoice).

# Example: Order Processing

You're ordering goods from your favorite DIY store

## Dynamic Parallel Execution

## Time-based Escalation

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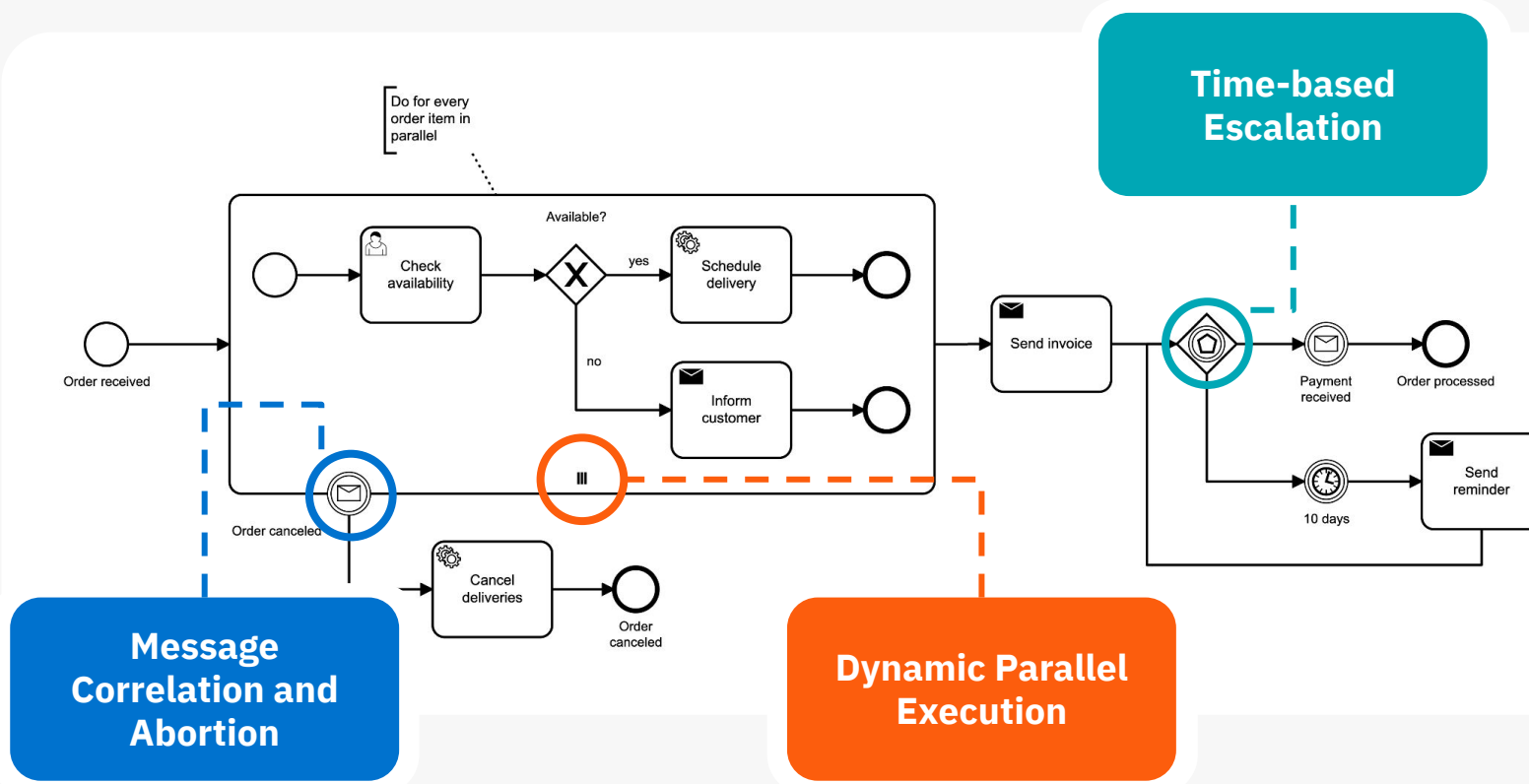
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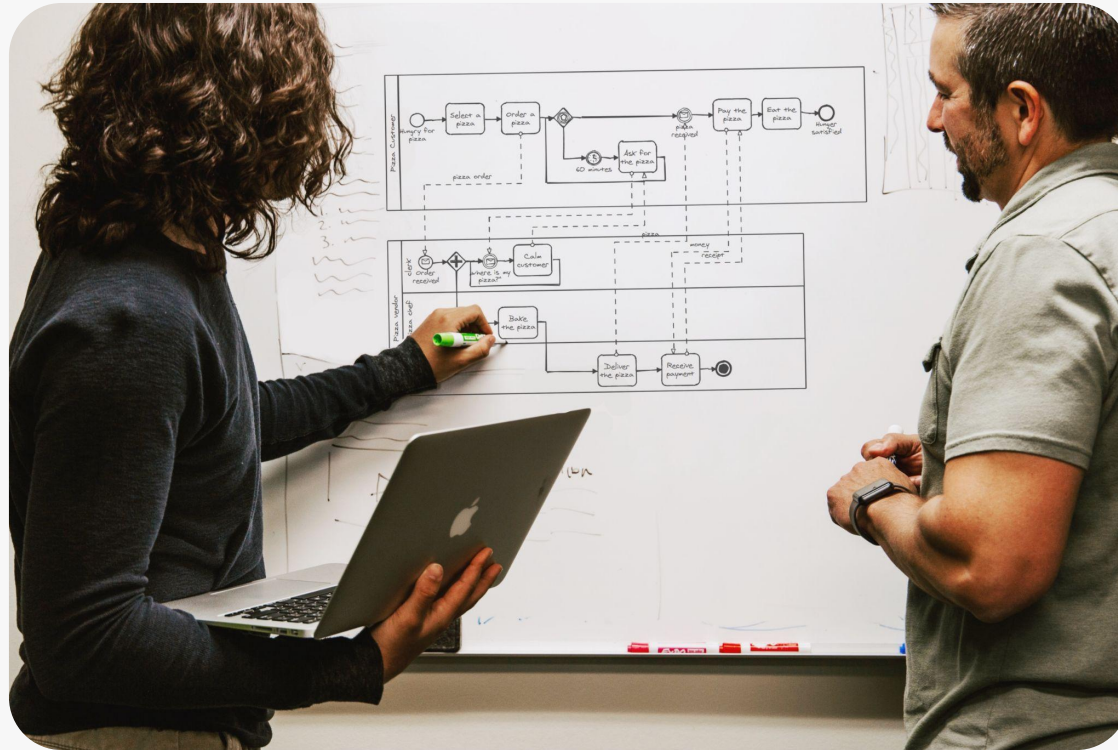
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## Message Correlation and Abortion

# Advanced Workflow Patterns

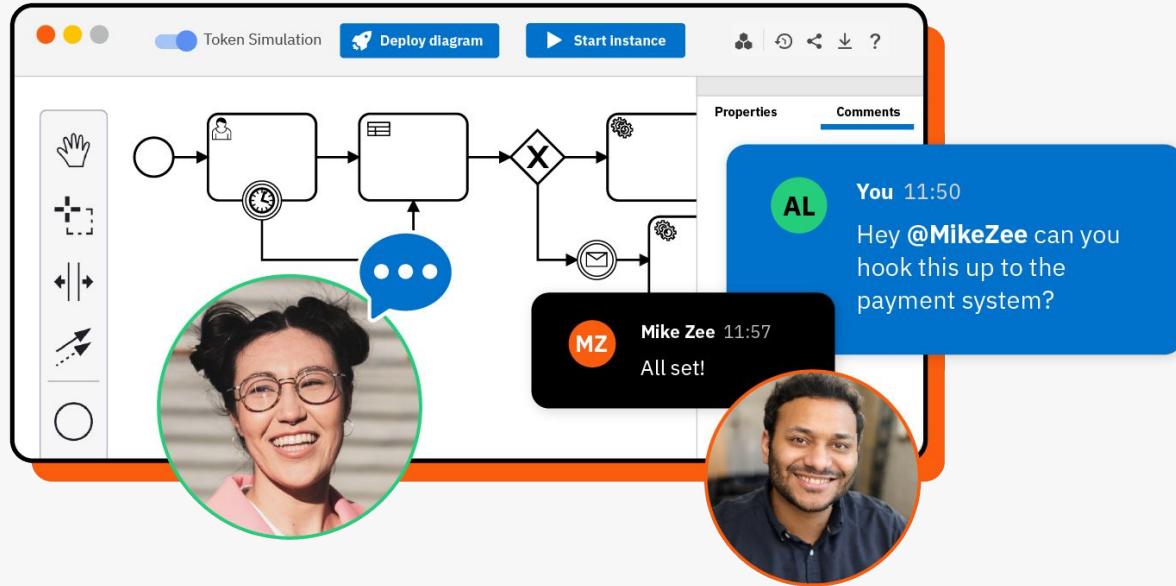
## Example





Clarifying more complex flows requires effective collaboration

# Collaboration via Camunda Modeler



# Short vs. Long-Running



Additional complexity



**Processing within (mili-)seconds** or potentially also over **minutes, hours, days, weeks, months, years**



Advanced Workflow Patterns reflect that with **wait states**



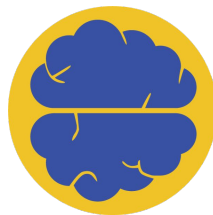
Technically means **process instance state needs to be persisted**

Doing all this in a scalable (i.e. high throughput), resilient (i.e. highly available) way is difficult.  
**It's why we built Zeebe (workflow engine in Camunda 8).**

# An Analysts' POV

*“Simplistic process logic simply won’t cut it. Real-world business process patterns are rife with **exceptions that require sophisticated error handling and compensation logic**. Such ‘exceptions’ shouldn’t even be called exceptions, as they are more the rule than the exception!*

***Such are the reasons why a tool like Camunda is so important for digitally transformed organizations.”*** ←





# Example: First American



- First American specializes in title insurance and settlement services for real estate transactions, leveraging Camunda for end-to-end process orchestration.
- Tens of thousands of process instances daily.
- Transforming the organization to provide customers with more options when ordering services thus providing better experiences.
- Connect to many endpoints from cloud providers to third party integrations to home grown and legacy systems – essentially everything except RPA.
- Complexity of processes includes listening for async ordering and responses from 3rd parties, signaling to alert Camunda, lots of exception handling, Running concurrently both sequentially and in parallel.
- **Beyond the transformation in customer experiences, the gained visibility into processes has proven to be invaluable.**



**Learn more:**

**Today (Oct 5)**

**4:00pm CET**

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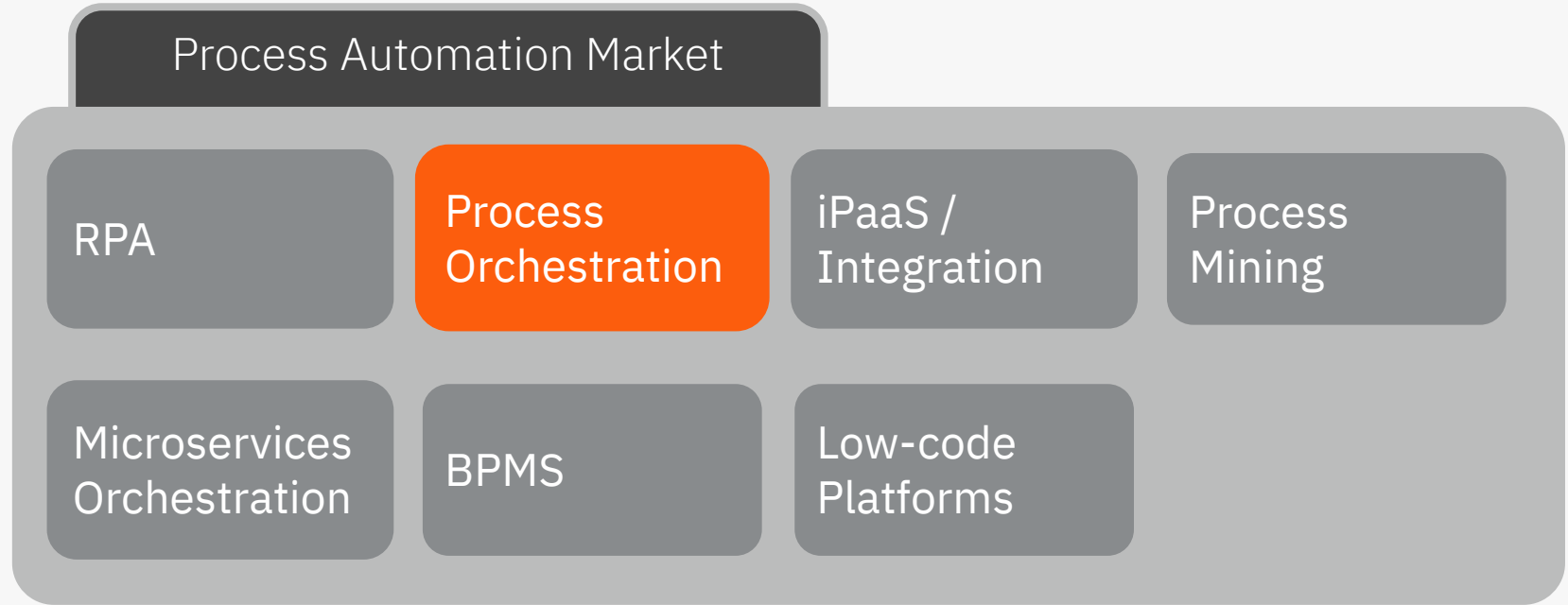
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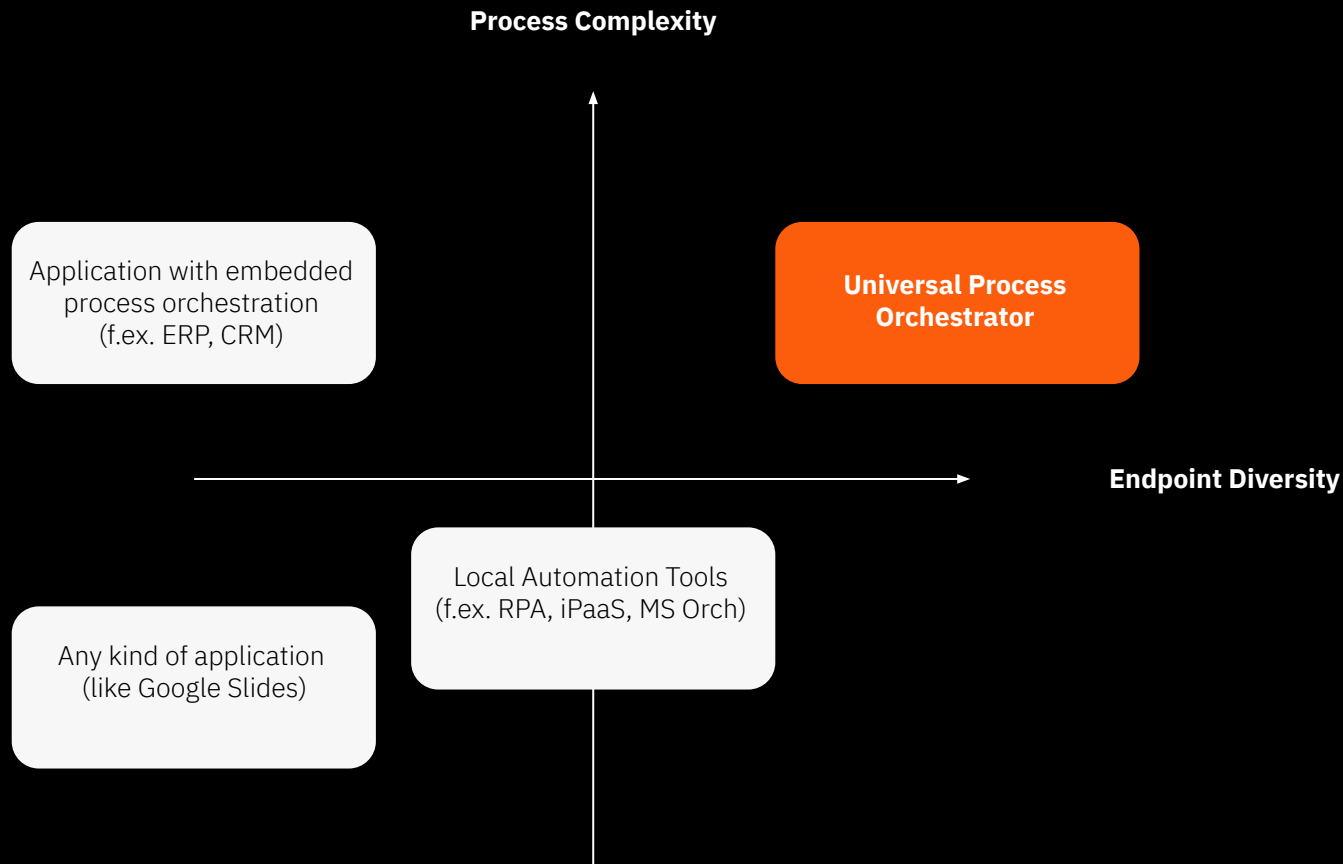
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## Camunda Product Vision

Accelerating your Path to successful Process Orchestration

# Market and Categories





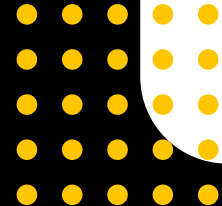
# What is hyperautomation?

“ Business-driven, **disciplined approach** that organizations use to **rapidly identify, vet and automate** as many business and IT processes as possible.

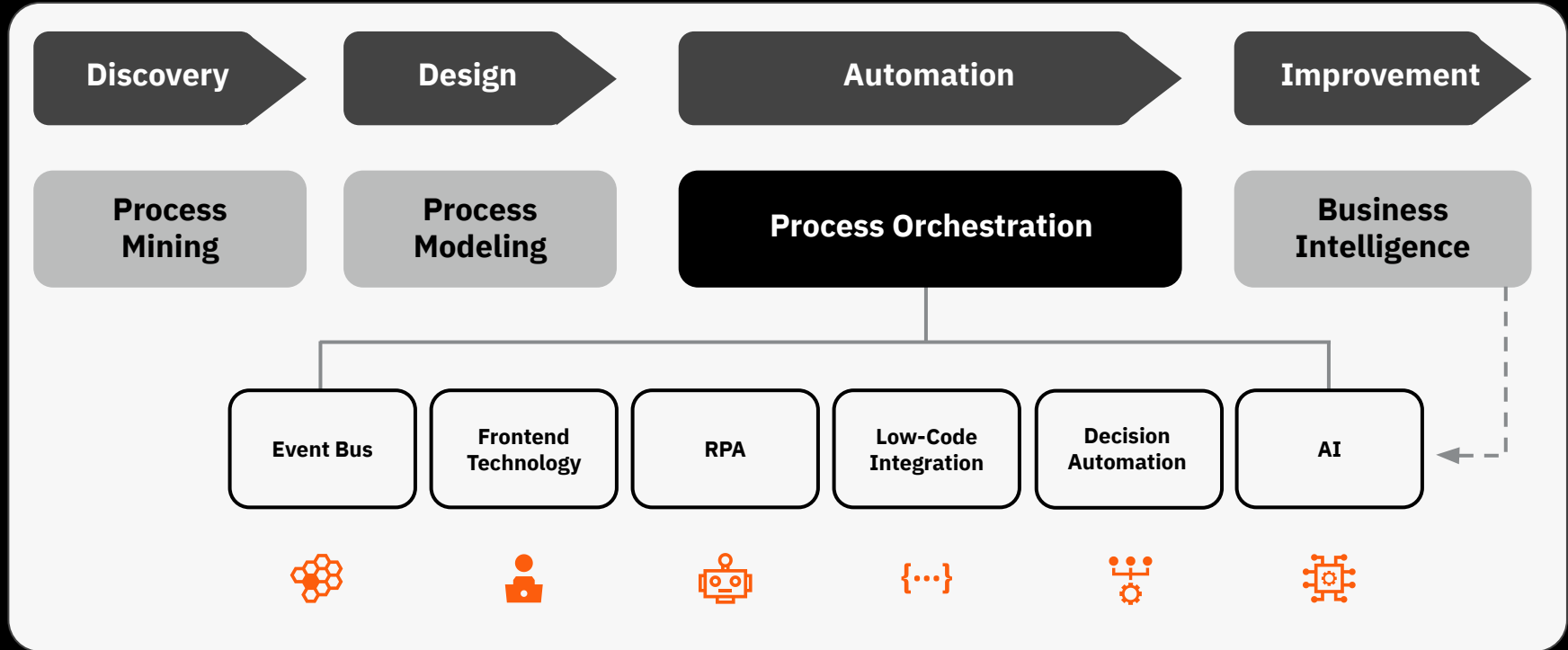
Hyperautomation involves the **orchestrated use of multiple technologies**, tools, or platforms.

Source: Gartner® Glossary <https://www.gartner.com/en/information-technology/glossary/hyperautomation>

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# Hyperautomation Tech Stack



# Example: Atlassian



- Situation: Quoting Process was taking too long
- Introduced Camunda for new end-to-end ordering system
- Real-time processing for quotes, orders, refunds
- Camunda at the heart of automation system, orchestrating 9 different endpoints, including complementary products like RPA (UiPath), iPaaS (Workato), ESB (Mulesoft)
- **Impact: Time to quote reduced from 45 minutes to 2 minutes**



**Learn more:**

**Tomorrow (Oct 6) at 4pm CET**

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# Highlights 2022 YTD



## Cloud

- Camunda 8 + Zeebe
- Web Modeler
- SaaS
- AWS EKS support
- OpenShift
- New Geo-regions for SaaS



## Connectors

- Slack, GDrive, Lambda, SQS, SendGrid, REST
- Integration Framework
- Connector Template
- Connector SDK



## Security

- Hot Backups
- SOC 2 (WIP)
- Token-based API authentication

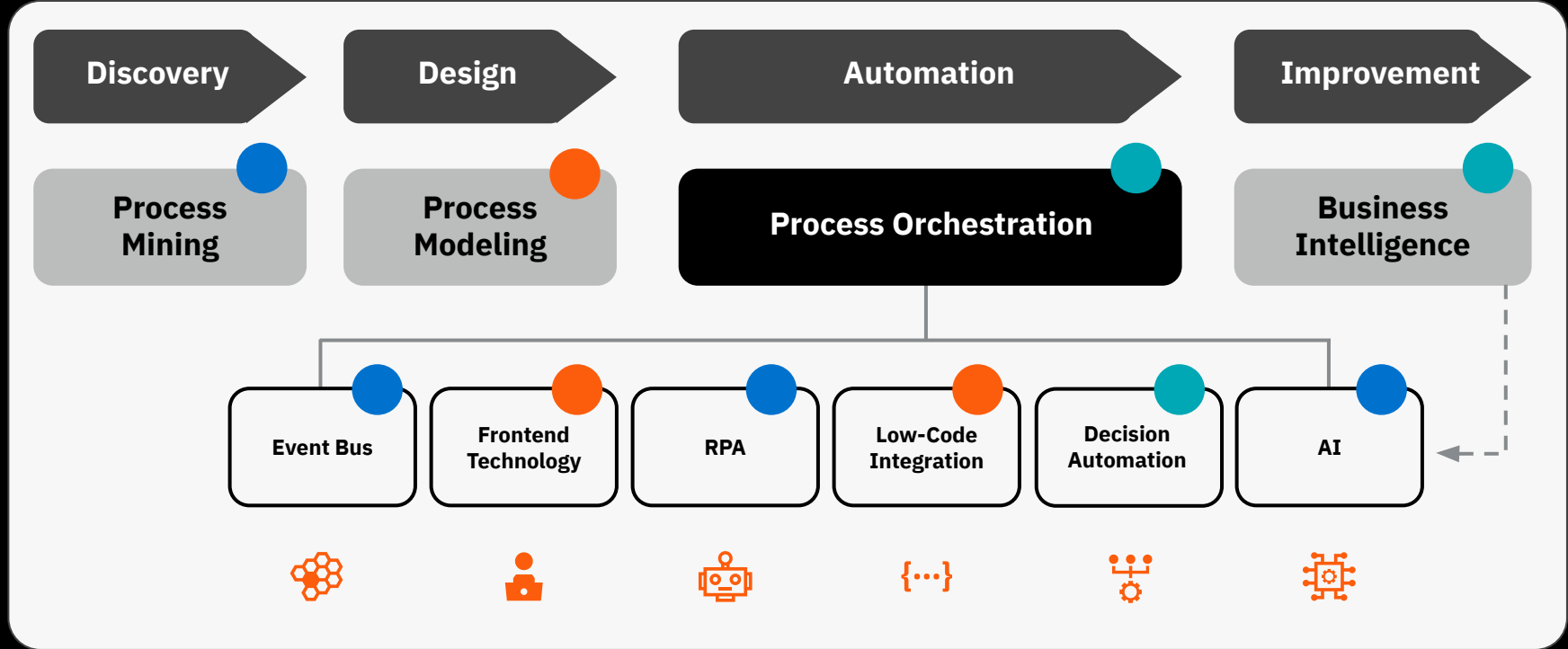


## Modeling + Optimization

- Better Task Forms
- Feel Expression Editor
- Intelligent code completion
- Dynamic Form Population
- Web Modeler for Self-Managed (preview)
- Process Onboarding
- Data Exports
- Read only users
- Open API support

+ so much more

# Hyperautomation with Camunda



Investment Focus



Continuous Investment

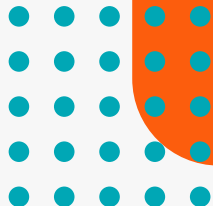


Partnerships

“

Not us, but our customers know best  
what's needed in our product.

**Daniel Meyer**  
CTO, Camunda



# Example: Goldman Sachs



Source: Presentation by Goldman Sachs at Camunda Community Summit 2022

CCS  
2022



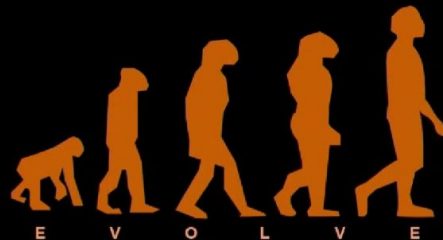
CCS  
2022

Goldman  
Sachs

## Enabling Technically Challenging Business Use Cases Using **Camunda BPMN** and **Camunda 8** at Scale

For nearly a **decade** we have invested in building platforms around **Camunda BPMN** and recently **Camunda 8** to support automation and orchestration requirements at **Goldman Sachs**

We will present some complex client use cases, the challenges they present, how we approached solving for them, and how we have evolved our **Platform** designs accordingly to scale across the **Enterprise**



# Camunda Journey began in 2015



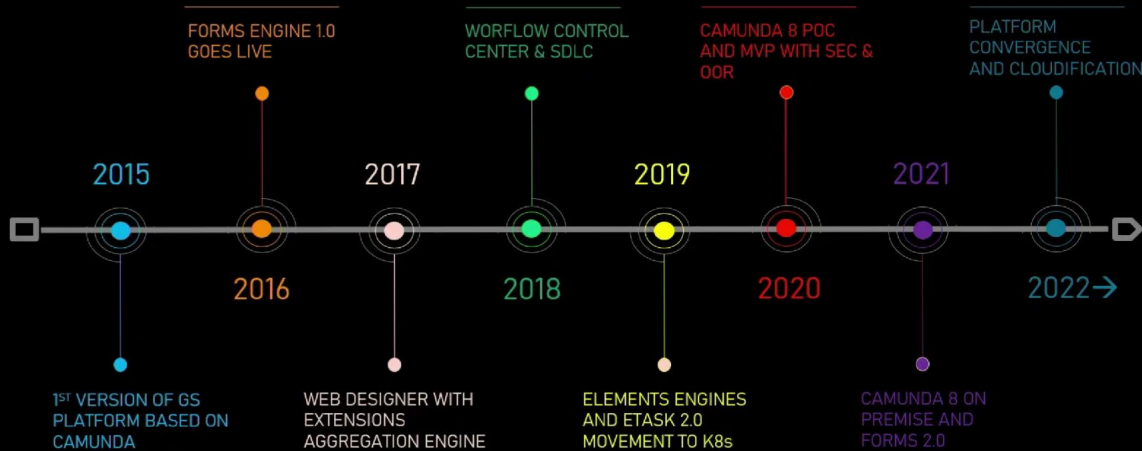
Source: Presentation by Goldman Sachs at Camunda Community Summit 2022

## Summary of Platform Features

A Brief History of our Experience with Camunda



### TIMELINE



# Massive Adoption in the whole Firm



Source: Presentation by Goldman Sachs at Camunda Community Summit 2022

## Camunda Adoption in the Firm through our Platforms

GS Uses Camunda Platform and Camunda 8 to Provide Workflow Solutions to the Whole Firm



Zeebe Inventory						
#	CLIENT	ID	ENV	LAYOUT	VERSION	HEALTH
5	CDE	cde-uit-cluster3	UAT3	small4	1.2.4	B G E C O
6	CTRL	ctrl-dev-cluster1	DEV1	small1	1.2.4	B G E C O
7	CWM	cwm-dev-cluster2	DEV2	small1	1.2.4	B G E C O
8	CWM	cwm-dev-cluster3	DEV3	small1	1.2.4	B G E C O
9	GIR	gir-dev-cluster2	DEV2	small1	1.2.4	B G E C O
10	ICOMM	icomm-dev-cluster1	DEV1	small1	1.2.4	B G E C O
11	LEX	lex-dev-cluster1	DEV1	small1	1.2.4	B G E C O
12	LEX	lex-perf-cluster2	PERF2	large8	1.2.4	B G E C O
13	RkoMENTS	payments-dev-cluster1	DEV1	small1	1.2.4	B G E C O

300  
Camunda BPMN  
engines deployed

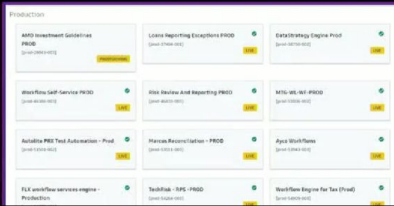
30  
Camunda 8  
clusters in Dev

6500  
BPMN models  
deployed

65K  
Unique Users  
per year

6 Million  
Manual Tasks  
weekly

15 Teams  
Exploring Camunda 8  
(non prod)



# Extended Camunda based on Needs



Source: Presentation by Goldman Sachs at Camunda Community Summit 2022

## Summary of Platform Features

Extensions on Top of Camunda BPMN and 8 to Satisfy GS Client Base at Scale



### Software Development Life Cycle



- Provisioning
- Online Design
- Testing
- Bundling, Promotion and Tracking

### User efficiency, Low Code and No Code



- Designer Extensions (connectors)
- Rest Service Integration with Service Discovery (connectors)
- Template-based Workflows (program tracker)
- Business Palettes (connectors)

### Manual Tasks and Task Management



- Forms Engine
- eTask / Task engine
- Assignment Policies
- Aggregation

### Scalability, Failure Isolation and Security



- Multitenancy shared Clusters
- Dedicated clusters
- SSO Integrations, Data encryption at rest and signatures for anti-tampering

### Availability, and Observability



- Observability, Distributed Tracing and Log Centralization
- Runtime Metrics and Alerting with Prometheus
- Lake Integration
- Data Metrics & Analytics

### Cloud Ready, Cloud Native, Cloud Agnostic



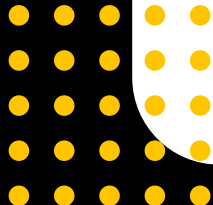
- Podman on premise
- Kubernetes on premise
- EKS on AWS
- Managed Service with Native Dependencies with ACK

“

*Our vision is to enable a broader range of personas to create and run process orchestration solutions a lot faster than they can today.*

**Mo Ladha**

VP Product Management, Camunda





# Themes



## Developer Productivity

*Reducing time to deploy processes*

- Enhanced Debugging
- Handling Data efficiently
- Integrated Process, Decisions and Forms development



## Collaboration

*Developers & Designers together*

- Project assets in one place
- Administer roles & access rights
- Define the product life cycle



## Universal Connectivity

*Connecting to Systems*

- Reusable Connectors
- Integration Framework
- Tools to Manage COE Ecosystems



## Cloud Operations

*Scale, Securely at low latencies*

- Root Cause analysis
- Managing Security



## Intelligence

*Analyze with Smart tools*

- Customizable dashboards
- Business Goal alerts
- Intelligent recommendations

# Universal Connectivity



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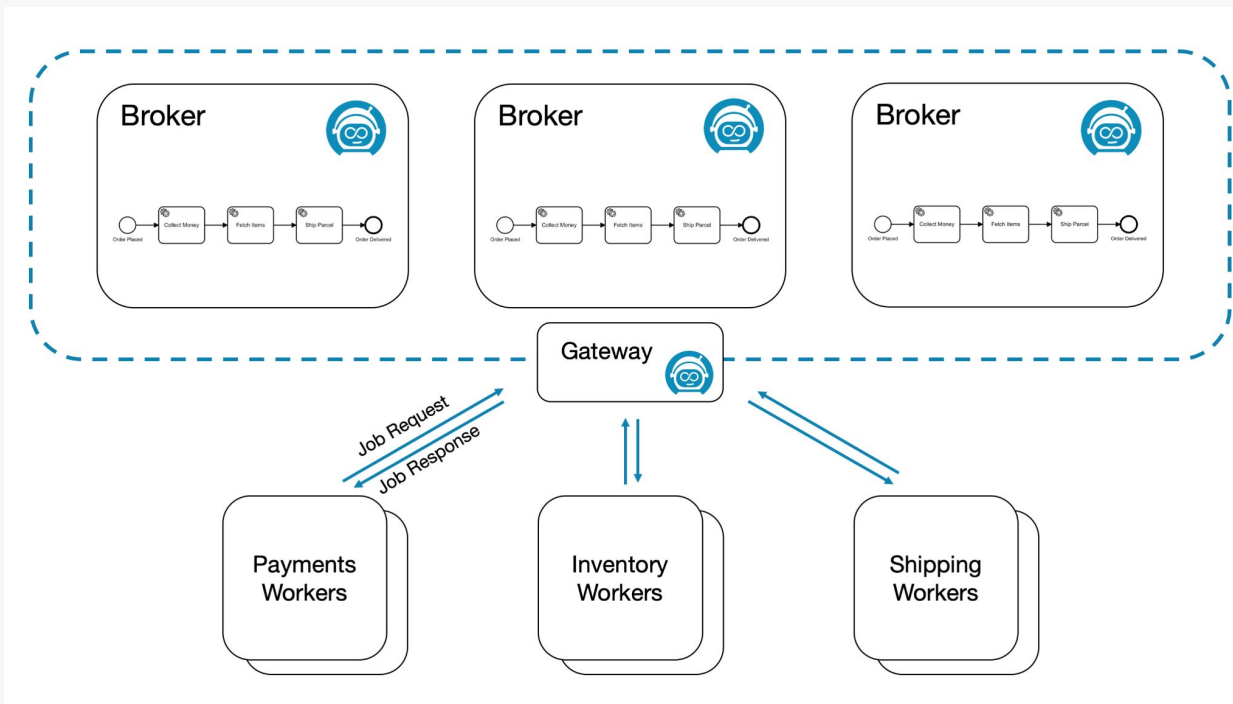


## Universal Connectivity

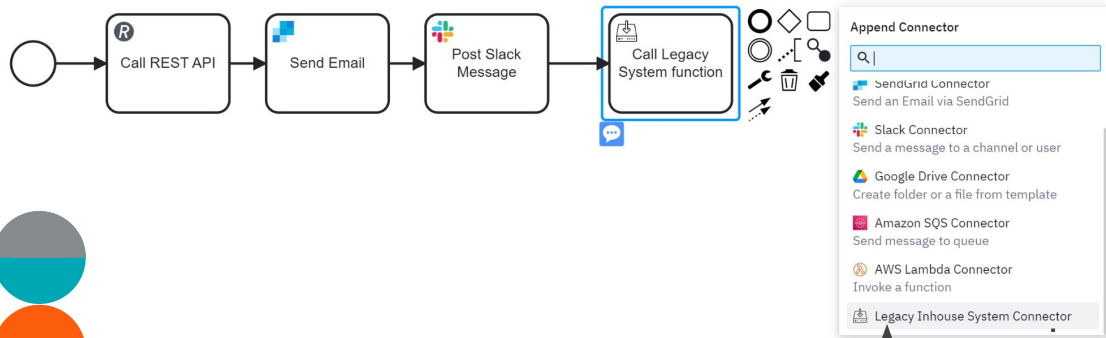
*Connecting to Systems*

- Reusable Connectors
- Integration Framework
- Tools to Manage COE Ecosystems

# Camunda Superpower: External Job Workers



# Connectors & Integration Framework



**Connector Developer**  
(Pro Code)



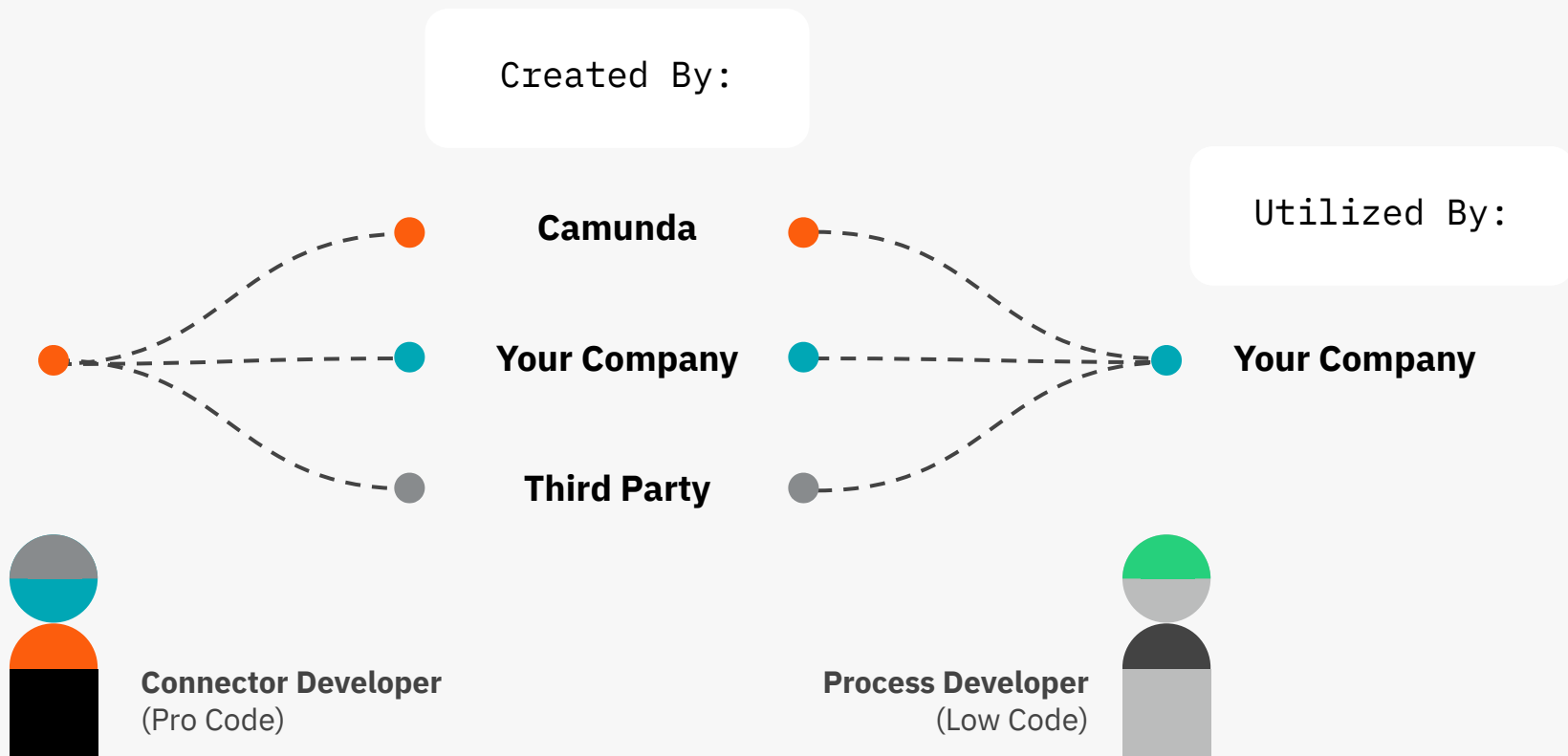
Publish a Connector Template and implement using the Connector SDK.

**Process Developer**  
(Low Code)



Develop processes that orchestrate systems via provided connectors.

# Creating a Connector Ecosystem



# Example: Infosys



The paper presented in this session focuses on the co-innovation between Infosys and Camunda for building Camunda 8 connectors!

Infosys is working closely with Camunda and building custom Connectors to accelerate integrations with outside third-party systems.

The connectors provide connectivity to a number of different categories like Database, Email, Enterprise Applications, IT Applications. Learn all about the co-innovation in this information session.



**Learn more:**

**Tomorrow (Oct 6) at**

**3.10pm CET**

# Interested? Let's connect!



Are you interested in Camunda's  
roadmap on connectors?

Let's chat here at CamundaCon to

- discuss your requirements
- share our upcoming plans
- see if we can work together



**Preeti Nirwal**  
Senior Product Manager  
Camunda

# Product Vision: Learn more



**Bernd Rücker**  
Co-Founder  
Camunda



**Daniel Meyer**  
CTO  
Camunda

**Opening Keynote Day 2: The  
Process Orchestration Journey**

**Tomorrow (Oct 6) at**

**1.15pm CET**





# Enjoy

