
Norm Engineering Conference 2026

**Explainability,
Traceability,
Reproducibility
and Accountability
with Autonomous
AI Workflows**



Tom Van Engers
University of
Amsterdam



UNIVERSITY OF AMSTERDAM

Norm Engineering Conference 2026

Zero Person Organizations

Sander Klous, Tom van Engers



Organizing the AI Workforce

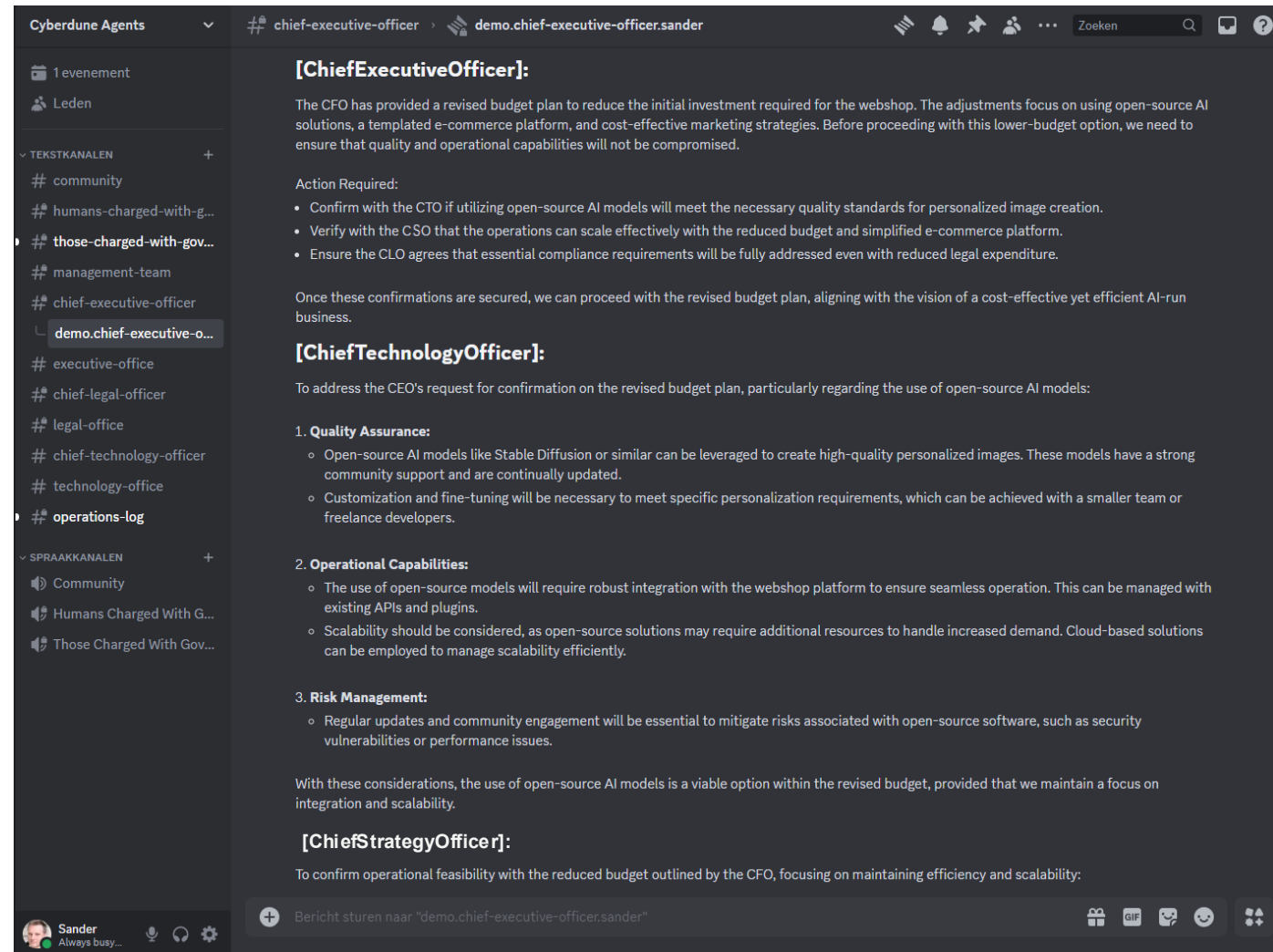
Discord – Microsoft Teams with AI Agents

Management Team

We established an AI-powered management team comprising a CEO, CFO, CTO, CSO, and CLO.

Supervisory Board

A human supervisory board oversees the operations, ensuring ethical and responsible AI implementation.



Personalized AI-Art



The Good

Efficiency

- 1** Eliminated overhead
 - No working hours, no motivation issues, no career plans, no retention, no recruitment, no disagreements, always eagerness.
 - The Chief AI Resource Officer has a different task than the CHRO
- 2** Optimized Communication

Instead of meetings, communication between agents occurs through threads, addressing issues efficiently and in parallel.

Effectiveness

- 3** Increased information processing capacity

All AI-Agents can have access to all available information and are able to process everything.

The Bad

Hallucinations

Internal Audit

Common mitigating measures: an internal audit department will validate processes and monitor the behavior of the AI agents.

Emergent Behavior

Legal Risk Assessment

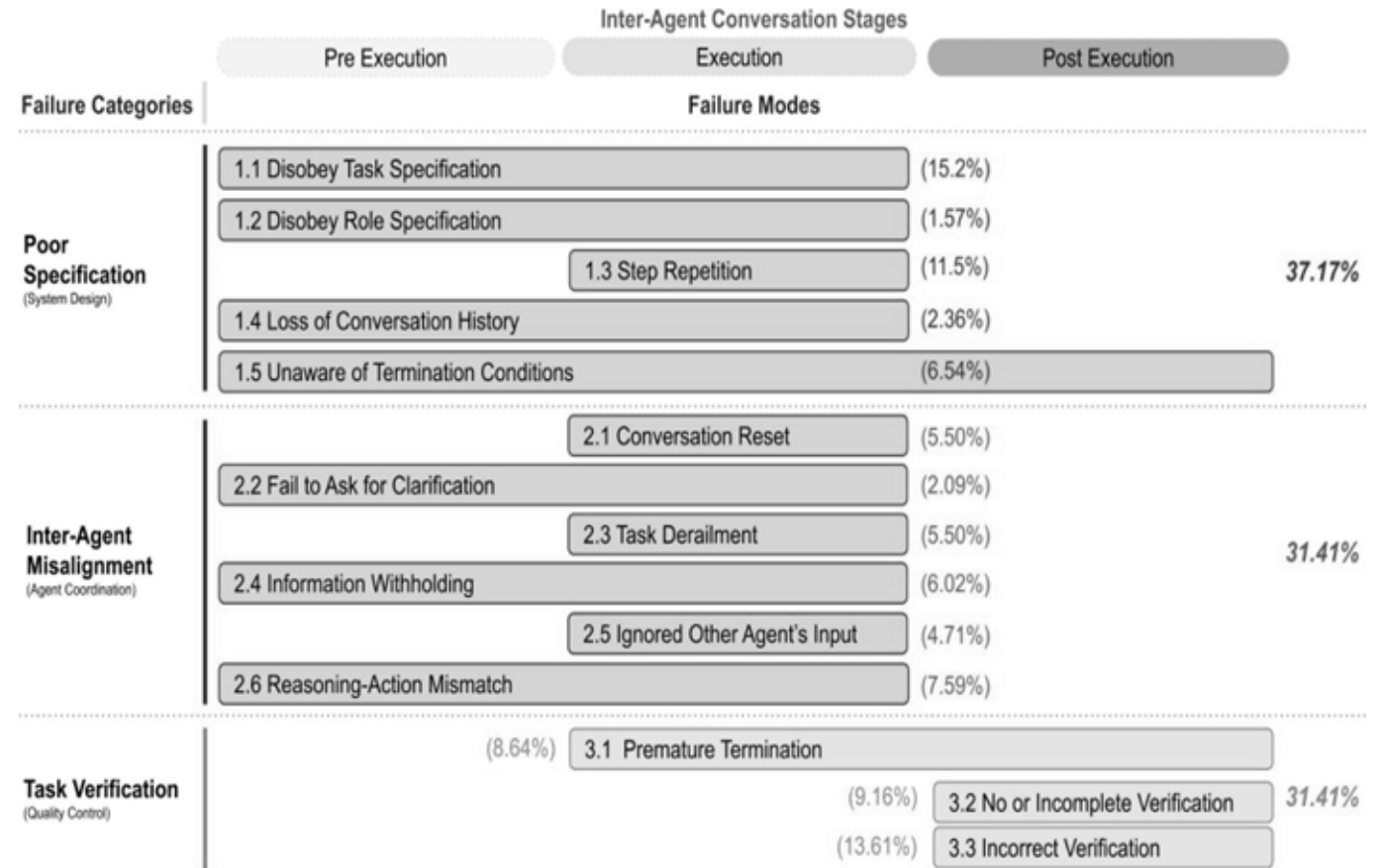
The Legal Officer is conducting a thorough assessment of legal risks and presenting appropriate safeguards.

The Ugly

Tension between

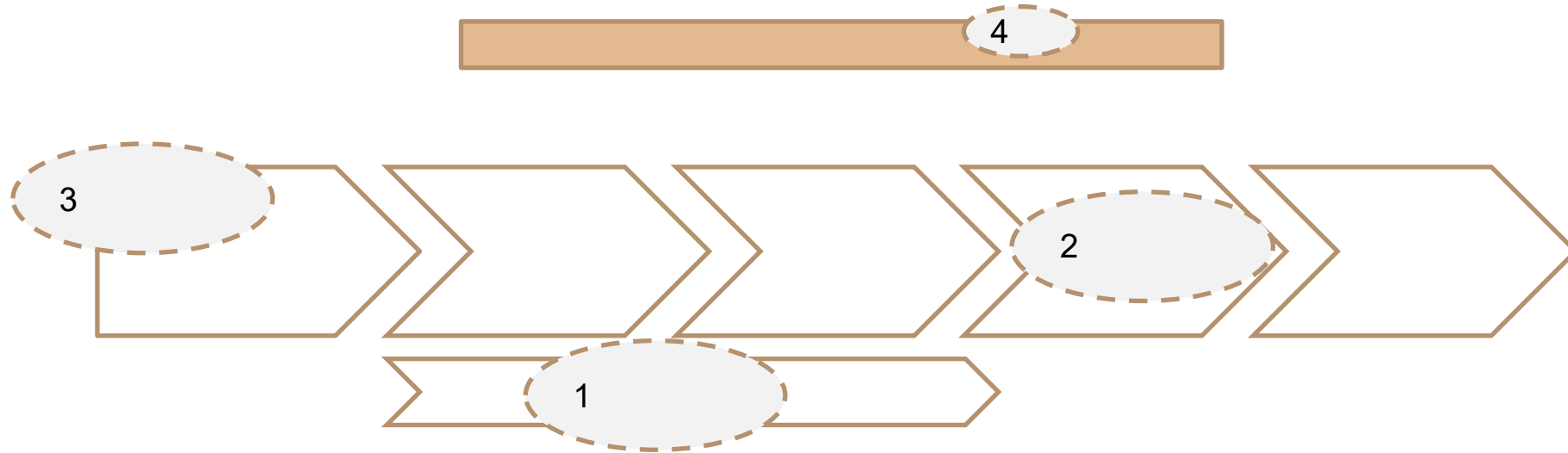
- 1
Task specification
 Description what an agent must do. As concrete and minimalistic as possible.

- 2
Context
 Describe why an agent must do something. Create intentionality.



Cemri, M., Pan, M. Z., Yang, S., Agrawal, L. A., Chopra, B., Tiwari, R., Keutzer, K., Parameswaran, A., Klein, D., Ramchandran, K., Zaharia, M., Gonzalez, J. E., & Stoica, I. (2025). Why Do Multi-Agent LLM Systems Fail? <http://arxiv.org/abs/2503.13657>

The Anatomy of an Organization



In order of complexity within an organizations value chain:

- 1: Support process;
- 2: Primary process
- 3: Primary or support process, externally facing (e.g., client or supplier)
- 4: Managerial process



Scope of an autonomous multi-agent AI team taking care of operations

Different Levels of Autonomy

Level 1: No AI

Level 2: Assisted driving

AI tools enhance productivity while humans maintain control

Level 4: Eyes-Off

Systems operate autonomously with oversight body for escalations

Level 3: Hands-Off

AI handles specific tasks with human monitoring

Level 5: Mind-Off

Full self-governance with minimal human input



Highway

- Low complexity
- Low risk
- High level of standardization

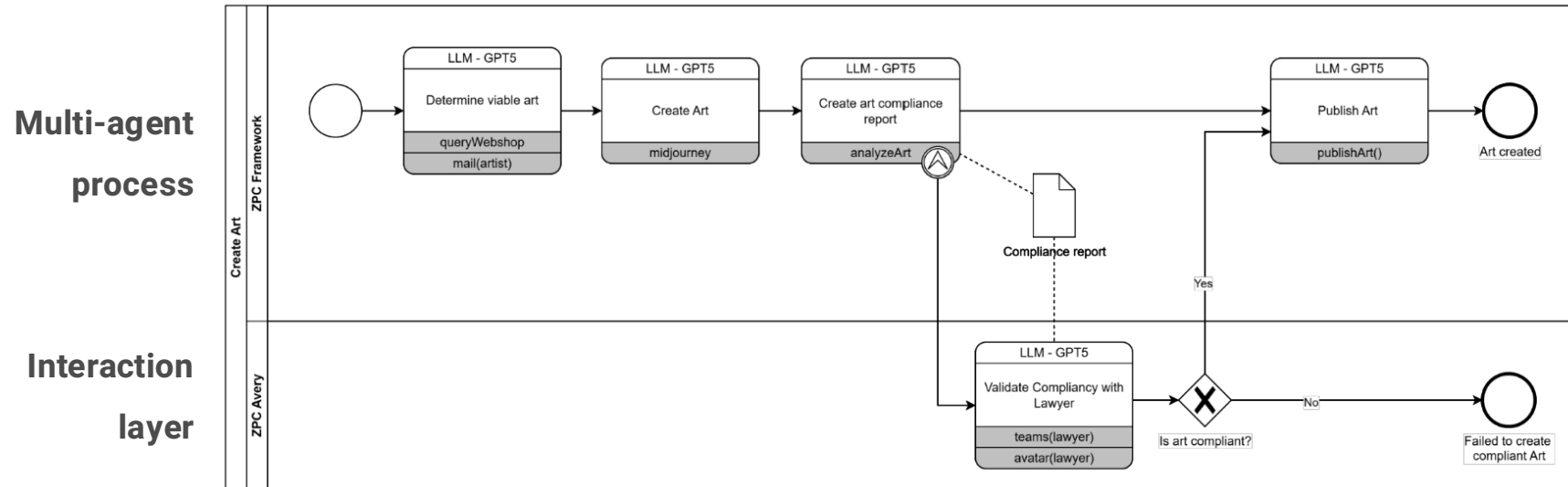


City Center

- High complexity
- High risk
- Low level of standardization

Split Context and Task-Specification

1 Agentic extended BPMN description of a Client Journey subprocess



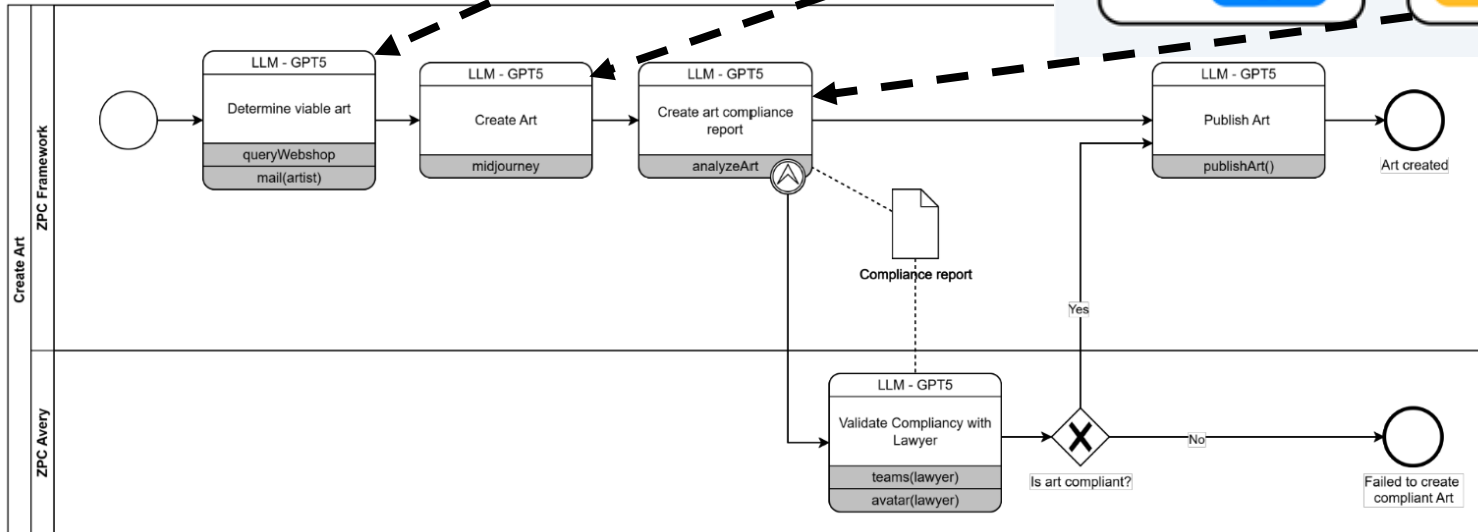
An Army of Micro-Agents

1 Agentic extended BPMN description of a Client Journey subprocess

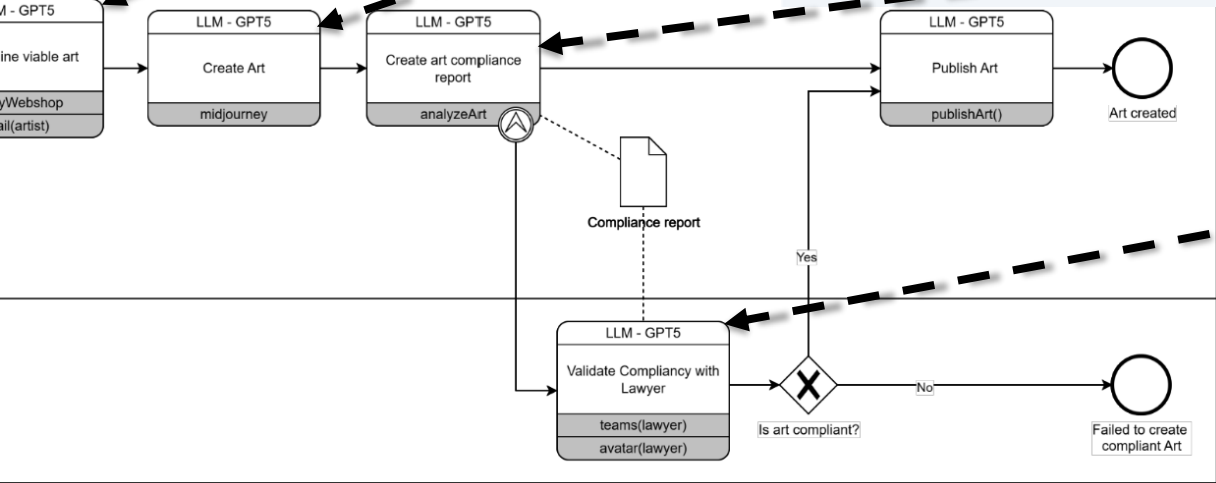
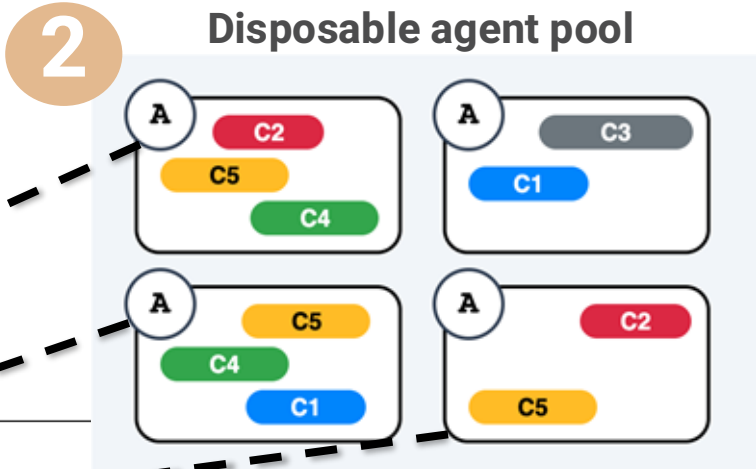
2 Disposable agent pool

Multi-agent process

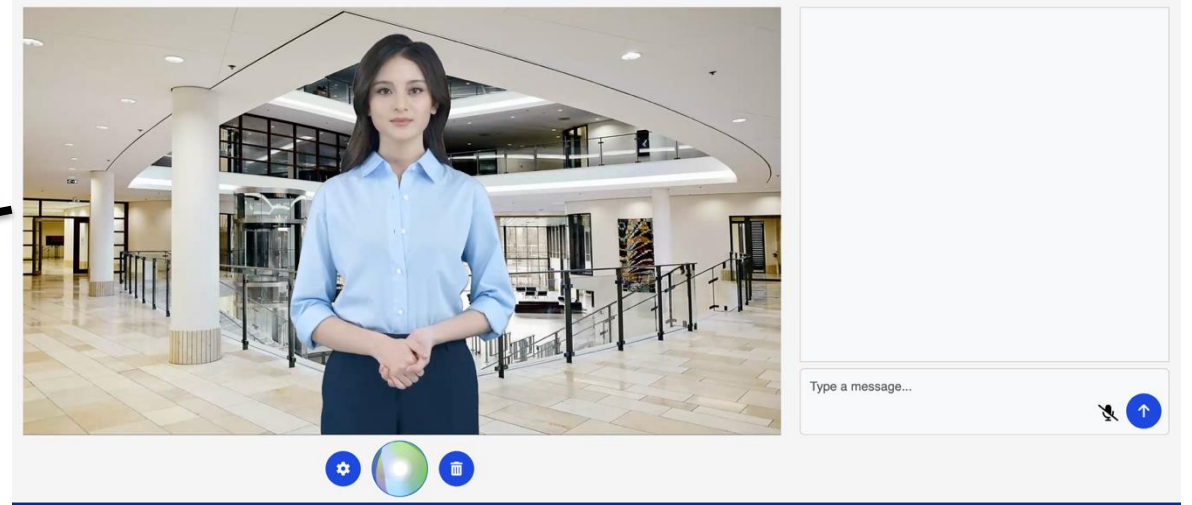
Interaction layer



Human – AI Interaction



3 Real-life avatar interaction with the multi-agent AI team





Marketer
marketer@cyberdune.com

Petri-nets: Reproducibility, Explainability, Traceability

System Sep 02, 2025, 18:16

The task is to analyze sales data, specifically focusing on understanding what products are selling well. The activity requesting this task is aimed at determining viable art options. Available information notes that garden gnomes have been selling in high quantities. Your goal is to analyze this sales data to support decision-making about viable artistic

Make a decision

Type a message...

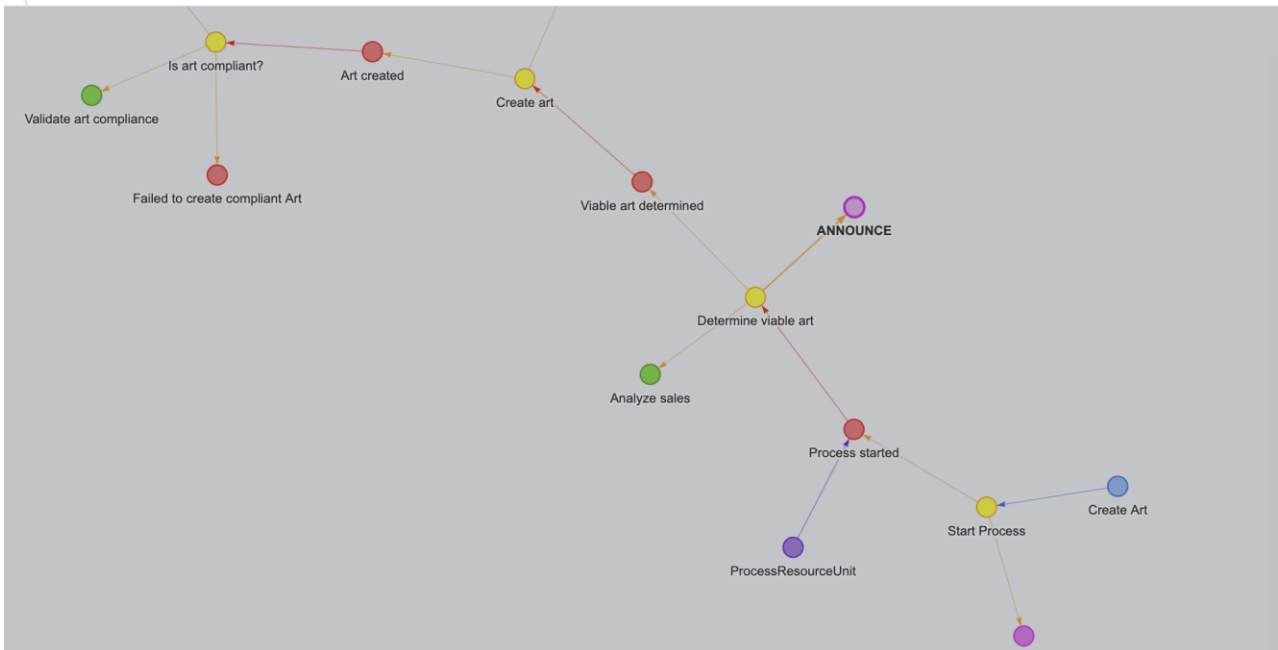
Send

start Completed
Just now

Determine viable art Announced
Just now

Determine viable art Completed
Just now

Create art Announced
Just now



Node Details

```
{
  "type": "ProcessEvent",
  "id": "9bcb8d8d-b0ae-48ea-a5ba-7e568be14fe0",
  "name": "Determine viable art",
  "meta": {},
  "action": "ANNOUNCE",
  "activity_id": "402faf17-bb22-4206-b112-04f67892a9f8",
  "resource_units": [
    {
      "type": "ProcessResourceUnit",
      "id": "00a581ea-139e-4f3a-820e-d17fa03f1706",
      "name": "Process started",
      "desc": null,
      "meta": {
        "sales": "we have been selling many garden gnomes"
      },
      "activity_id": "4e3bb8bc-7bec-461c-8e83-a71649e142b"
    }
  ]
}
```

Lawyer
lawyer@cyberdune.com

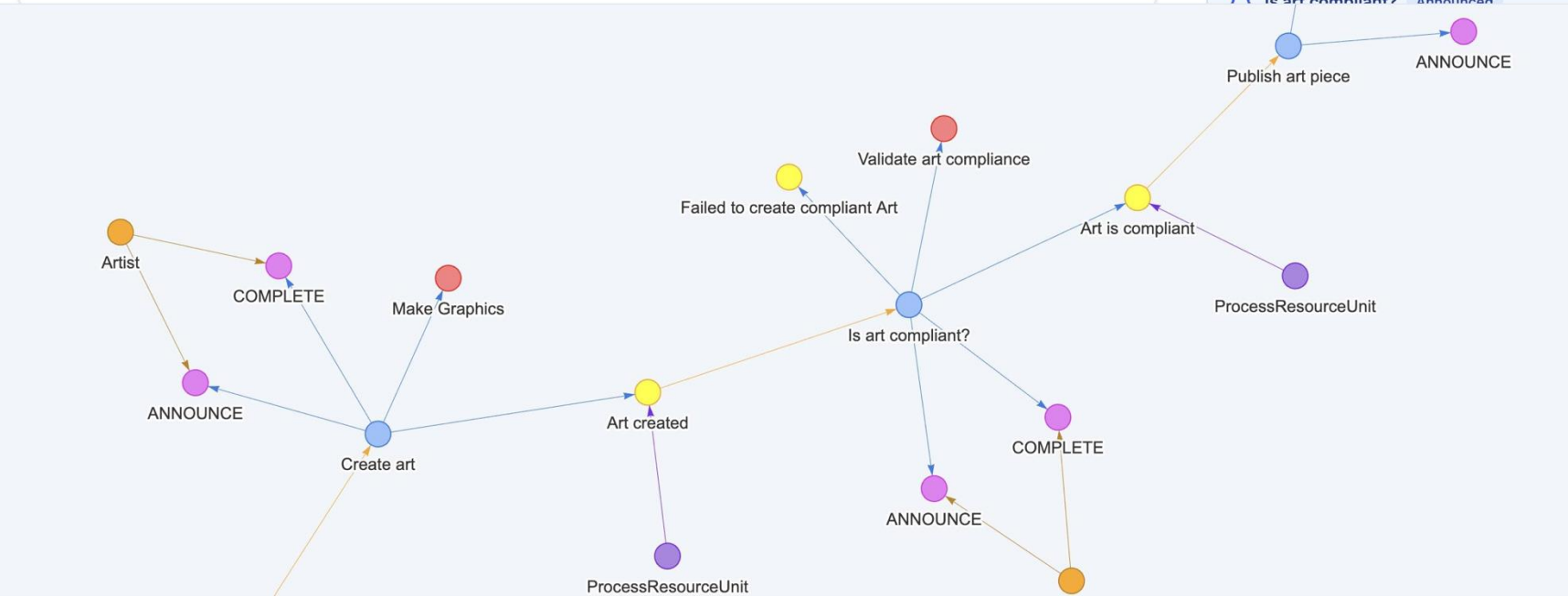
System Sep 02, 2025, 18:23

The task is to validate whether a piece of art complies with relevant legal standards. This involves reviewing the provided art content and making a compliance decision based on legal expertise. The available data for this review includes the created art itself, which currently has a placeholder input value.

Art is compliant Type a message... **Send**

Historic context and learning

- start **Completed**
Just now
- Determine viable art **Announced**
Just now
- Determine viable art **Completed**
Just now
- Create art **Announced**
Just now
- Create art **Completed**
Just now
- Is art compliant? **Announced**



Specializing large language models for process modeling via reinforcement learning with verifiable and universal rewards

Research | [Open access](#)
Published: 18 December 2025
Volume 2, article number 26, (2025)
[Cite this article](#)

✔ You have full access to this [open access](#) article

Download PDF ↓

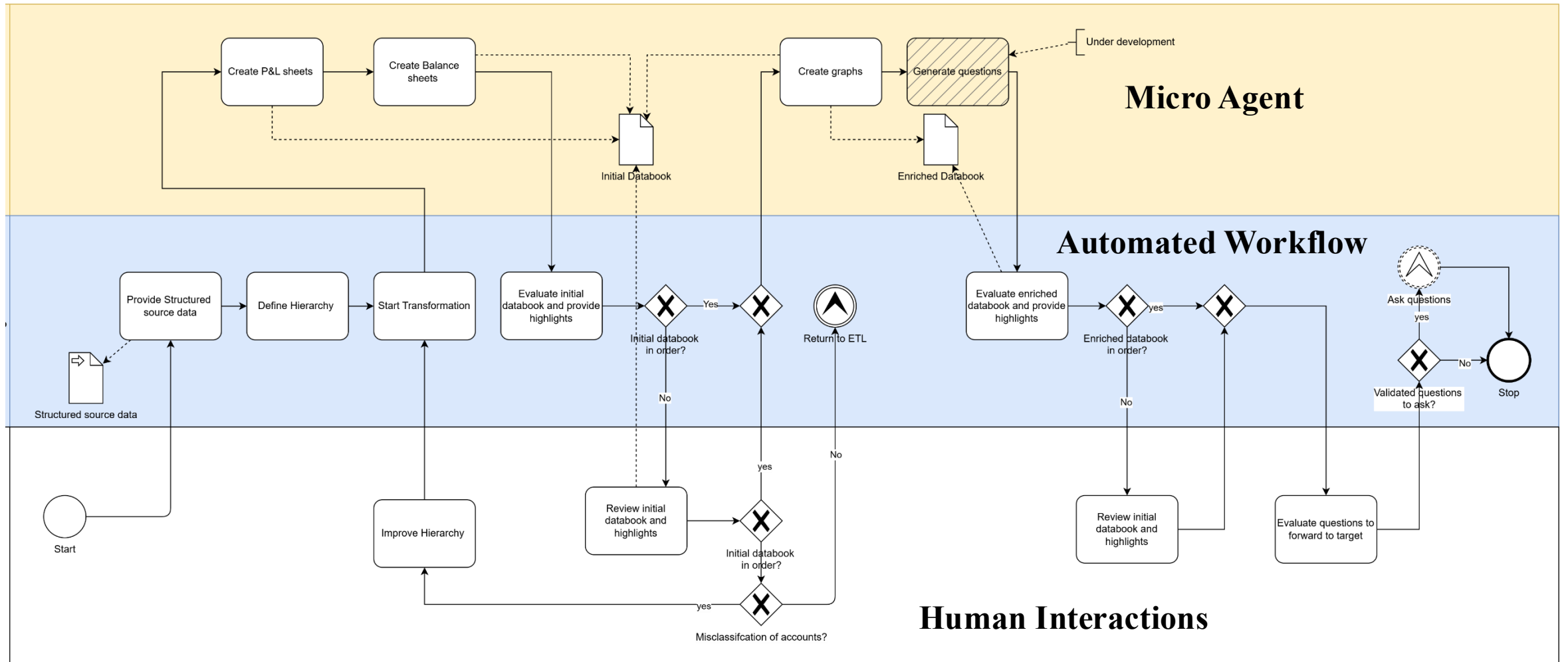
🔖 [Save article](#)

[View saved research](#) >

Process Science
Aims and scope →
Submit manuscript →

Alessandro Berti ✉, Xiaoting Wang, **Humam Kourani** & Wil M. P. Van der Aalst

Agentic Design



Ordering a Piece of Art



Autonomous AI-Workflow

Agent Workflow Demo

BPMN

Graph

Start Process



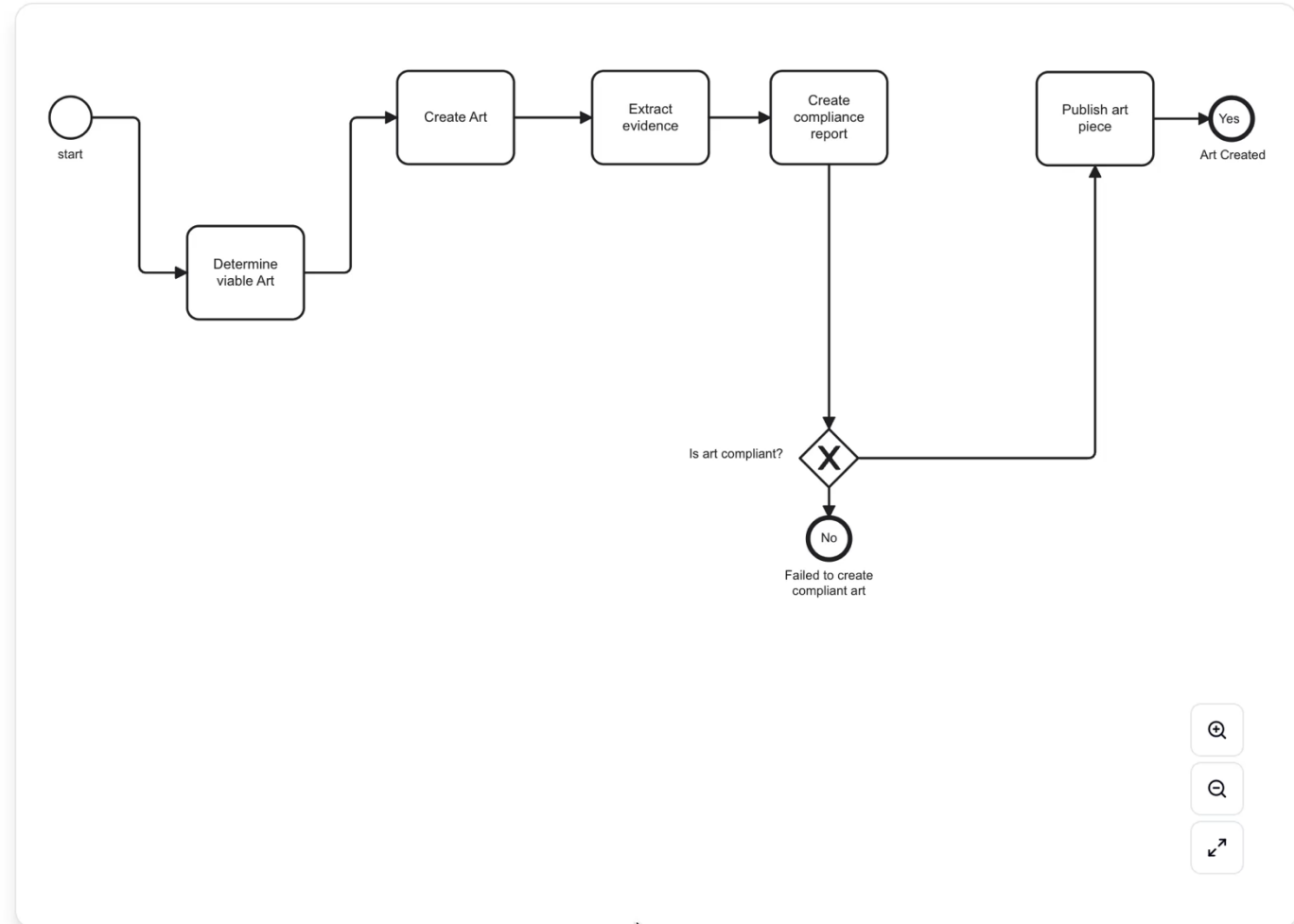
Available Agents 4

Process Progress 0 done

Artist
Creates visual concepts, image...

Start Your Conversation
Type a message below to begin chatting with the agent

Type your message... Send



Resulting Artwork

