



# Object-Centric Event Data Standardization

## OCED Working Group

### Working Group Information

October 13th

- Standardization objectives
- Principles of OCED WG towards community standard
- Approach towards IEEE Standardization
- How to get involved: Core WG, Extended WG, Community Calls
- OCED WG members

# Objectives of the Object-Centric Event Data (OCED) Working Group

We will build on the learnings of the last years and turn them into a usable standard for the industry aiming for high adoption

## Status Quo and Learnings

- **XES failed to gain traction** because, despite its conceptual simplicity, it was technically complex and included many detailed concepts that were not aligned with industrial requirements.
- **The fixed case notion in XES** limited flexibility, while real-world analysis often requires taking different perspectives. This led vendors to build proprietary ETL pipelines to construct suitable event data models.
- **In 2021, the IEEE Task Force on Process Mining initiated the OCED** project to co-design a successor to XES. The goal was to create a format that is multi-perspective, object-centric, flexible, and simple.
- **OCED aims to lower barriers to entry**, foster innovation and competition, and improve ROI across the ecosystem—enabling users to focus on business value creation and vendors to concentrate on process mining functionality rather than data transformation.
- **The OCED working group has made progress**, converging on a conceptual “OCED core” based on a table format. However, the specification is not yet finalized, and while five independent implementations demonstrate feasibility, interoperability, scalability, and accessible datasets remain open challenges.



## Standardization Objectives

- **Clarify Scope and Technical Layers**  
Distinguish between the conceptual layer (already explored) and the storage layer (still open). Address the trade-off between simplicity and expressiveness, and clarify whether OCED is a meta-model, file format, or ontology, and which other roles it must fulfil.
- **Establish Clear, Actionable Criteria for Standardization**  
Move beyond abstract goals by defining concrete decision criteria and structuring the consensus process to support convergence across the community.
- **Deliver a Simple, Flexible, Object-Centric Standard**  
Ensure the standard e.g., supports multi-perspective analysis, lowers entry barriers, enables standardized data exchange, and facilitates vendor focus on functionality over data transformation.
- **Ensure Practical Utility and Technological Fit**  
The standard must be implementable using existing scalable technologies (e.g., relational databases) and support the creation of source system adapters for scalable process mining analysis.
- **Align with Academic Developments and Community Adoption**  
Build on OCEL-related models and existing implementations. Leverage community experience while ensuring compatibility and scalability for real-world use cases.

# Principles of OCED WG to Achieve Standardization Objectives

For a community with diverse expertise and a common goal on an evolving topic

## Operate open and transparently

- to educate and inform, and
- to facilitate adoption and decision making as standard evolves,
- by regular communication and information about process and proposals

## Prioritize simplicity

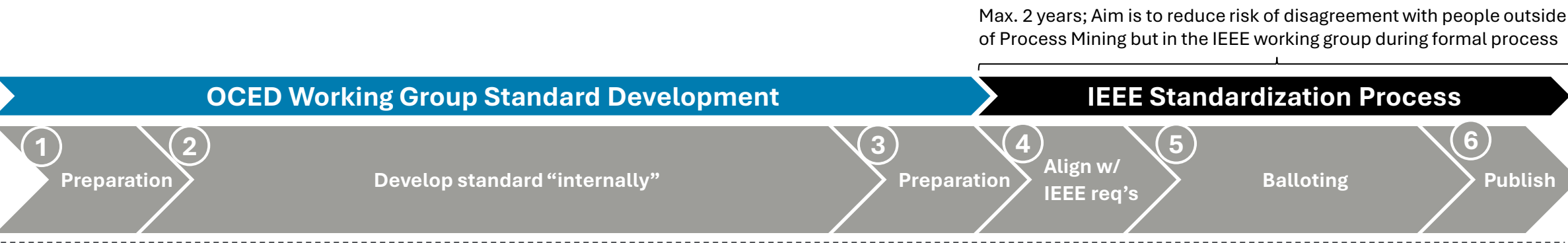
- to provide standard that can be implemented at scale and be used by everyone, and
- to lay solid foundations for future research and developments

## Consensus-Driven Community Process

- to achieve utility for researchers, practitioners, and vendors
- by developing standard against clear community requirements, and
- by regularly involving community in feedback and decisions

# Our Standardization Approach

We are dividing the standardization process into two phases starting with a standard development before triggering the formal IEEE standardization process



- 1 **Current phase of setting up the working group and the standardization scope**
- 2 **Build complete standard** (set objectives, definition & implementation, build on results in OCED whitepaper, keep it simple, make it robust and align with aims) and **get community committed** (Sounding, feedback, and internal voting, gather traction (contribute use cases, data), commitment to implement (produce/consume), commitment to engage in formal voting)
- 3 **Identify IEEE committee** to sponsor standardization and **set up IEEE WG** for standardization (any IEEE member can join).  
To succeed, the IEEE WG needs >50% industry members (paid membership) with active commitment until (6) Publish
- 4 **Formal proposal** in line with IEEE requirements and various IP/patent aspects to cover
- 5 6 **Formal process** to approve various parts of the standard. Any paying IEEE member who is part of the IEEE WG has right vote (we can set minimum requirements for attendance)

# How to get involved?

Involvement is possible on three different levels: Core Working Group, Extended Working Group and within Community Calls

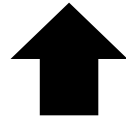


## Working Group Setup

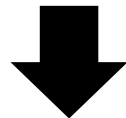


### Core Working Group

Active contribution to the OCED standard development, currently seeking additional vendor involvement



Keeping the extended group informed and engaged in the OCED standardization process via regular and open **community calls**



### Extended Working Group

Provide validation, use case input and adoption feedback and enables broad industry involvement without high workload



## Commitment

Participation and getting involved in the core or extended working group requires experience in Process Mining and its community and an honor-based agreement to

- Adhere to Principles of OCED WG (transparency, simplicity, consensus)
- Actively and regularly participate in the working group meetings
- Actively contribute to and taking on responsibility for work packages or requests with timely execution
- Participate in the formal balloting/voting
- Join the formal IEEE Working Group as a paying member for two years

# OCED Core Working Group Members (as of 13-10-2025)

## Academia

- Dirk Fahland, TU Eindhoven (academic co-lead)
- Wil van der Aalst, RWTH Aachen
- Daniel Calegari, InCo Montevideo
- Claudio di Ciccio, Utrecht University
- Andrea Delgado, InCo Montevideo
- Marco Montali, Free University Bozen-Bolzano
- Ekkart Kindler, DTU Copenhagen
- Eric Verbeek, TU Eindhoven

## Industry

- Julian Theis, Deloitte (industrial co-lead)
- Maarten Asseldonk, Konekti
- Peter Blank, PwC
- Marcus Brenscheidt, SEIA
- Michael Ivertowski, EY
- Julian Lebherz, SAP
- Bas van Zelst, Celonis
- *NN, Vendor – currently in discussion*