



DEXPI®

Data Exchange in
the Process Industry

DEXPI Process Specification for PFD/BFD

From the DEXPI+ project result to continuous maintenance



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Agenda



- What is DEXPI?
- What was the DEXPI+ project?
- What are the next steps regarding the DEXPI Spec for PFD/BFD?
- What's in for you? / How can you contribute?



What is DEXPI?



What is DEXPI?

1. An **association** promoting and organizing networking and collaboration in the process industry regarding data exchange standards across the asset lifecycle
 - 19 member companies as of May 2024
 - Organizing PIDMIC 3.0 @ ACHEMA 2024 (11./12. June)



2. **Information models** for the exchange of P&IDs, PFDs and BFDs Specifications



The DEXPI P&ID Specification

The DEXPI P&ID Specification defines an information model for P&IDs as well as a mapping to the exchange format Proteus Schema.

Current version:

- [DEXPI P&ID Specification 1.3 \(2021-06-01; 30MB\)](#)



The DEXPI PROCESS Specification

The DEXPI Process Specification defines an information model for BFDs as well as PFDs.

Current version:

- [DEXPI Process Information Model 1.0 \(PDF / HTML; 2023-12-15\)](#)
- [DEXPI Process Specification 1.0 Manual \(2023-12-08\)](#)
- [DEXPI Process Specification 1.0 Supporting Material \(2023-12-08; link to DEXPI Nextcloud folder containing supporting material\)](#)

News

[CGC Capital-Gain Consultants GmbH Joins DEXPI e.V. as a New Member 2024-05-16](#)

[Siemens AG Strengthens Industry Collaboration by Joining DEXPI e.V. 2024-05-16](#)

[Yokogawa Joins Forces with DEXPI e.V. to Advance Process Industry Standards 2024-05-14](#)

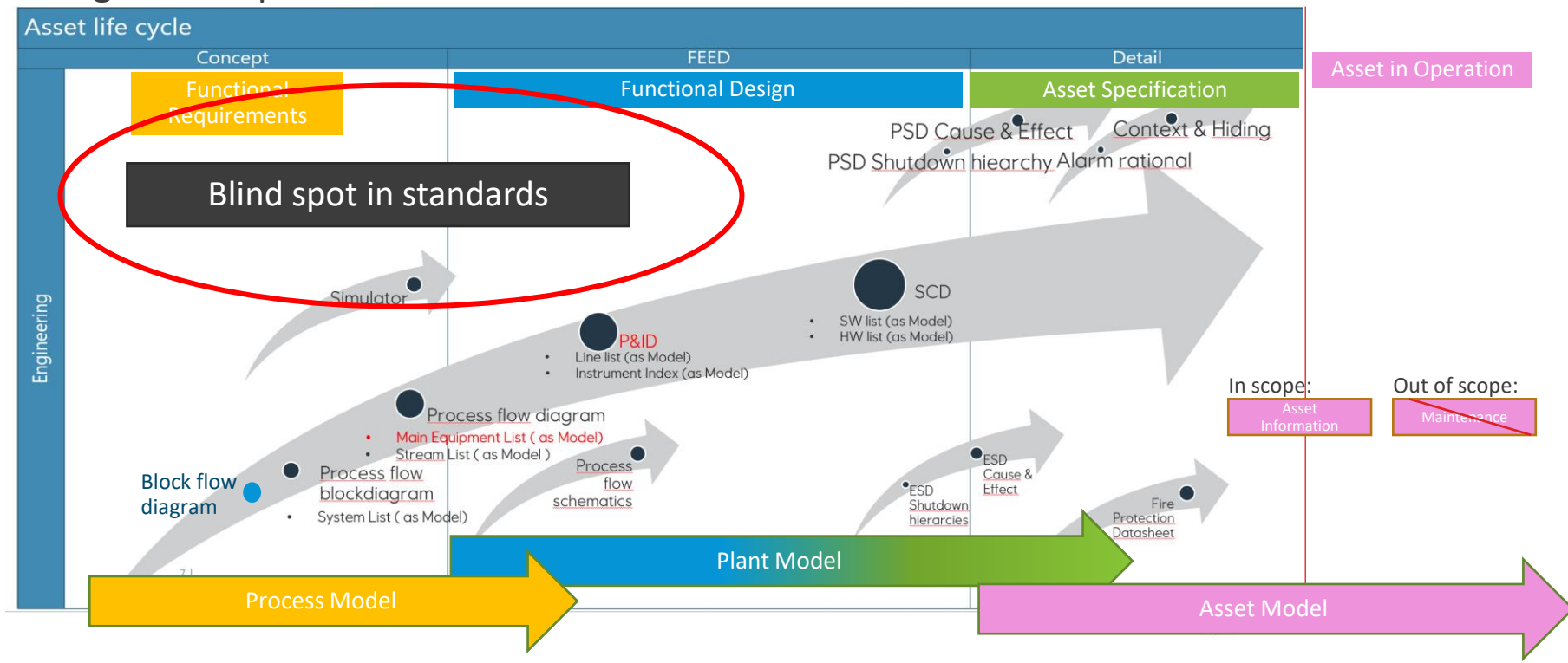
What was the DEXPI+ project?
Why was it started?
What was the outcome?



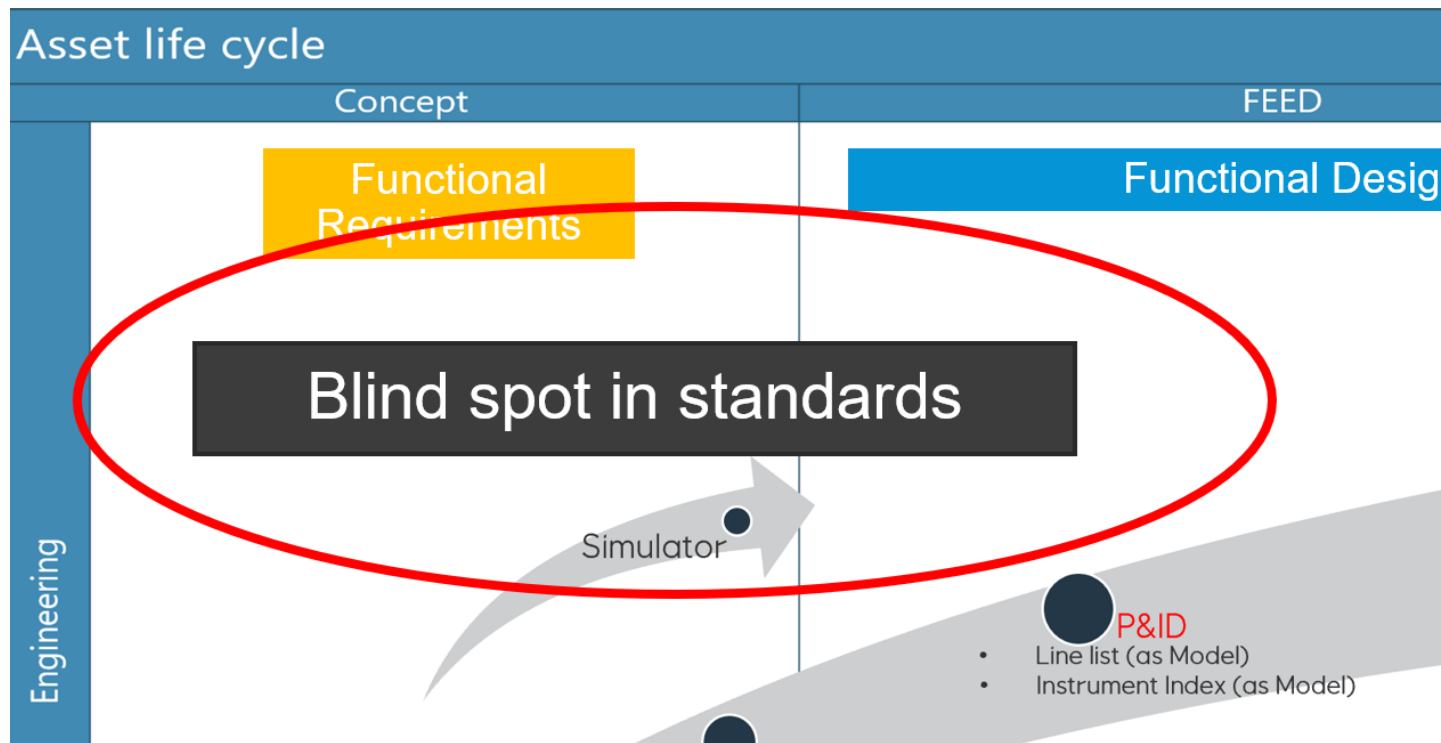
The DEXPI+ project addressed a blind spot in the standards landscape.



Design development



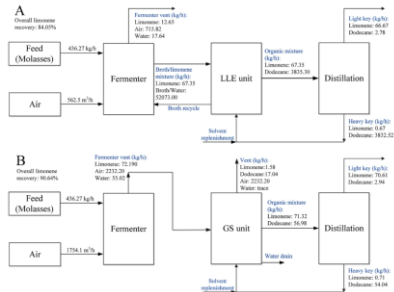
The DEXPI+ project addressed a blind spot in the standards landscape.



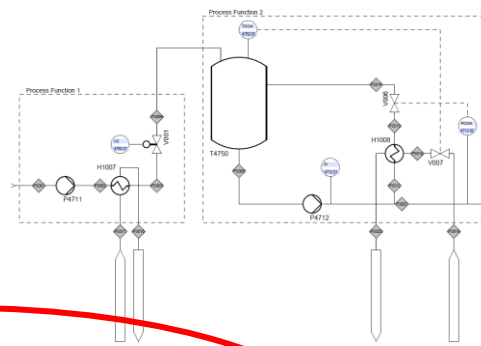
The goal of DEXPI+ was to develop an information model for BFDs/PFDs.

- In 2022, the DEXPI+ project was started (see e.g. THTH autumn webinar November 2022).

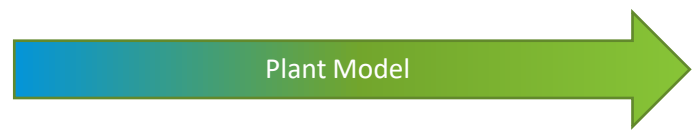
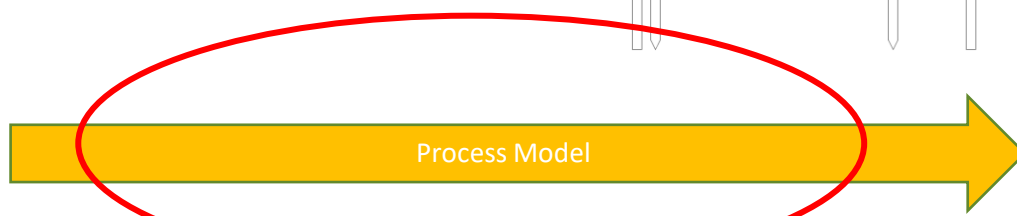
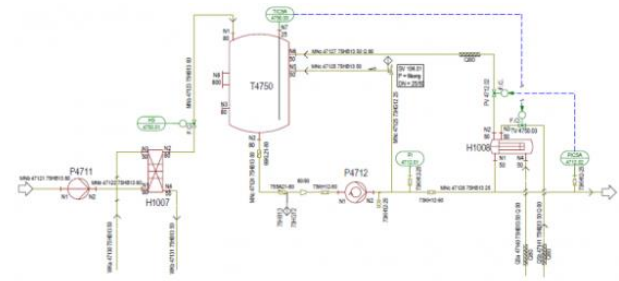
BFD Block Flow Diagram



PFD Process Flow Diagram



P&ID Piping & Instrumentation Diagram



The outcome, DEXPI Process, was published in 2023.



<https://dexpi.org/wp-content/uploads/2023/12/DEXPI-Process-1.0-Manual.pdf>

DEXPI Process Modelling of Process Systems and their Documentation

Authors: David Cameron, Wilhelm Otten, Heiner Temmen, Gregor Tolksdorf
DEXPI+ Project Team: David Cameron (University of Oslo), Andreas Schüller (NAMUR), Anselm Klose (TU Dresden), Behnam Ghahraman (Aucotec), Eric Carnet (Aveva), Iskandar Halim (ISCEE), Leon Hanke (Aucotec), Maged Selim (Aveva), Manfred Theißen (PNB), Martin te Lintelo (USPI), Monica Hole (Aibel), Idar Pe Ingebrigtsen (Equinor)

<https://dexpi.org/dexpi-process-specification-1-0-released/>

DEXPI Process Specification 1.0 released

2023-12-15

https://dexpi.org/static/process_model_1.0/index.html



PROCESSNET
EINE INITIATIVE VON DECHEMA UND VDI-ÖVC

DEXPI Process

Version 1.0

Released by the DEXPI Initiative on December 15, 2023

<https://www.sciencedirect.com/science/article/pii/S0098135423004349>



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DEXPI process: Standardizing interoperable information for process design and analysis

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What are the next steps regarding the DEXPI
Spec for PFD/BFD?
How does the interplay with the P&ID Spec
look like?

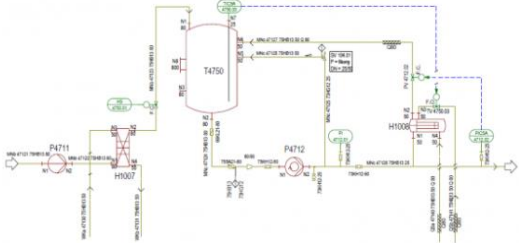
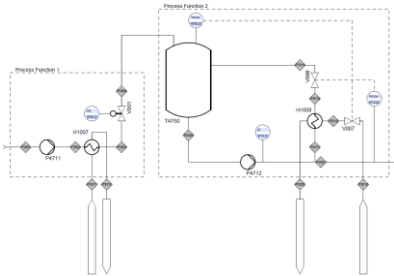
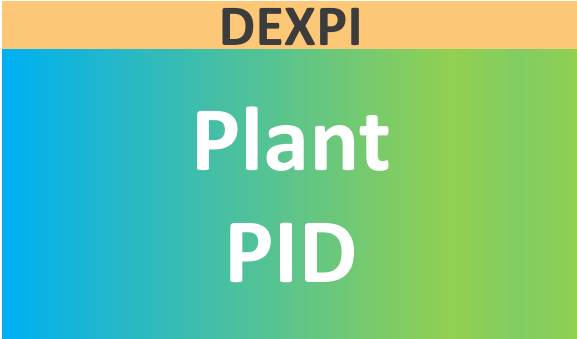


The implementation of DEXPI Process is encouraged.



- A dedicated DEXPI working group is investigating modern implementation/serialization mechanisms for BFDs, PFDs, and P&IDs.
- A conference presentation showing the interplay of DEXPI Process and flowsheet simulation is planned.
- Based on these gained experiences, the DEXPI Process specification for BFDs and PFDs will be further developed.

DEXPI 2.0 will combine Process and Plant into one information model.





DEXPI[®]

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the Process Industry

What's in for you?
How can you contribute?



A DEXPI working group for the Process Specification will be set up.



- The Process Specification Interest Group (DEXPI Process SIG) has the task to continuously maintain/develop the BFD/PFD specification.
- The kick-off meeting of the DEXPI Process SIG is planned for Q3 2024.
- The working mode (team composition, meeting intervall and duration etc.) will be clarified in this kick-off.
- Input by experts not being member, yet, is very welcome and appreciated!

Summary

- DEXPI is ...
 - an **association** fostering data exchange in the Process Industry.
 - a set of **information models** for BFDs, PFDs and P&IDs.
- A new working group maintaining the Process Spec (BFD, PFD) will be set up.
 - DEXPI Process SIG kick-off in Q3 2024
- „DEXPI 2.0“ is planned to combine Plant and Process in one information model.



Get first-hand information and bring in your needs by joining the Q3 meeting* of the DEXPI Process SIG

* ~CW34 (16.-27. August);
drop me a message and you will get an invitation to the meeting poll

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