



Digitale Interoperabilität in kollaborativen  
Wertschöpfungsnetzwerken der Industrie 4.0

# Closing-Presentation: IEC 61131 Software Package Manager

Ein Projekt gefördert vom



Durchgeführt von



STANDARDIZATION  
COUNCIL  
INDUSTRIE 4.0

# 1. Projektidee und Auftrag

**Austausch von IEC 61131 Softwarepaketen zwischen Paket Repositories und Softwaresystemen zur Programmierung von Automatisierungssystemen (z.B. SPS)**

- Die AAS bietet mit dem Informationstechnischen Ansatz die Chance die bisherige fragmentierte Softwarewelt über einen herstellerübergreifenden offenen Schnittstellen-Standard für IEC 61131 Softwarepakete deutlich zu verbessern.
- Das Ziel ist eine einheitliche Beschreibung solcher Softwarepakete mittels eines AAS Teilmodells.
- Das Teilmodell wird alle erforderlichen Informationen beinhalten, die eine automatisierte Software-Paketverwaltung und eine damit verbundene automatisierte Abhängigkeits- und Versionsverwaltung benötigen. Zudem wird das Teilmodell Informationen über unterschiedliche Paketquellen beinhalten, um für den Anwender kein Single-Source Vendor Log-In über die Paketverwaltung zu erzeugen.

# Introduction: BCON<sup>2</sup>



**BCON<sup>2</sup>** was founded in 2021 as a subsidiary of ECLASS Association, to act as a commercial operator for ECLASS.

We offer support services, and consulting all around ECLASS and data standards in general.

Through extensive knowledge in areas such as data modelling, AAS, and product-/master data management within the European Industry community – BCON<sup>2</sup> is available as a competent partner.



## Who we are

### Thorsten

Studied Economical Computer Science at University of Cologne.

After extensive experience with the standardisation of FMCG products, he took over as General Manager of the Head Office of ECLASS Association and subsequently BCON<sup>2</sup>.



Thorsten  
Kroke



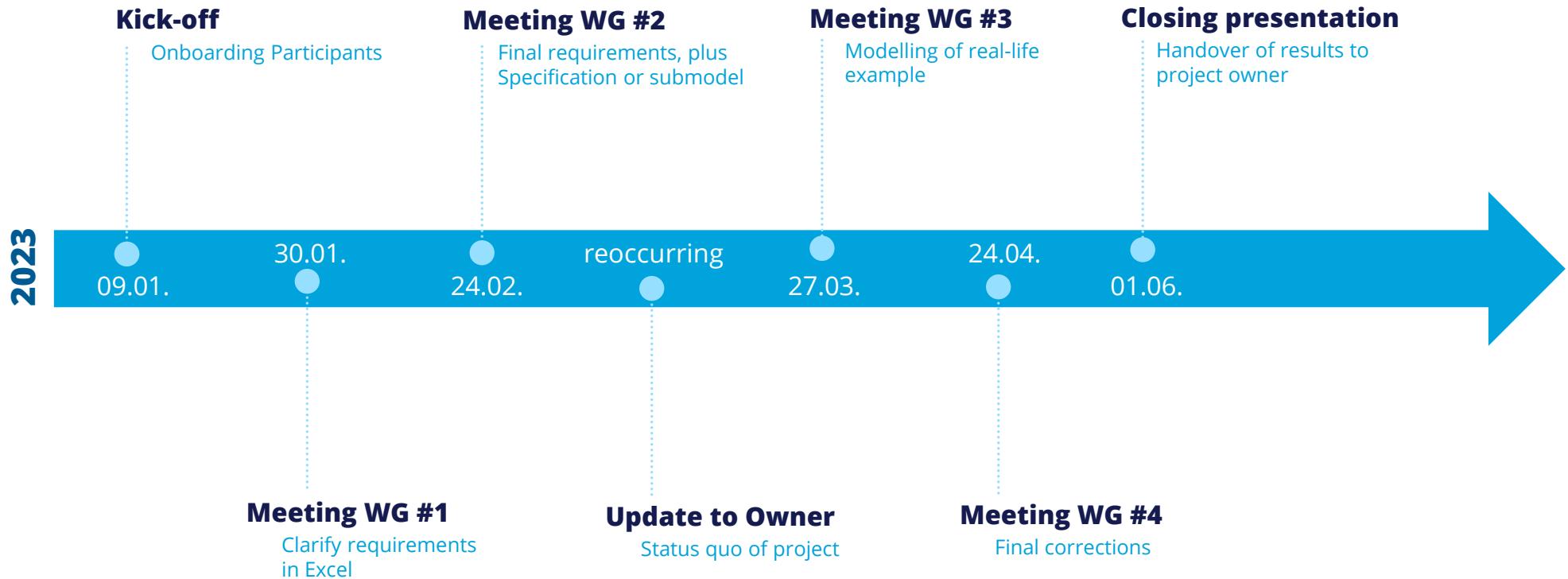
Christian  
Block

### Christian

Graduated with a Dr.-Ing. in Mechanical Engineering from Ruhr University Bochum.

Took over as Head of Engineering for BCON<sup>2</sup> and supervises the technical development of ECLASS and BCON<sup>2</sup>.

# Timeline of Project



# Motivation IEC 61131 Software Package Manager



The diagram illustrates the IEC 61131 standard for programming languages, showing how it defines programming languages and its impact across different environments.

**IEC 61131**  
Part 3 defines programming languages

**Standard POUs**

**POUs** (represented by blue cubes) are stored in **Repository A**, **Repository B**, and **Repo C**. **Repository D** is shown as missing metadata.

**Update mechanisms** (indicated by a lightning bolt and a circular arrow) allow for the exchange of Standard POUs between repositories. This exchange is possible via PLCopen (XML technical document version 2.01).

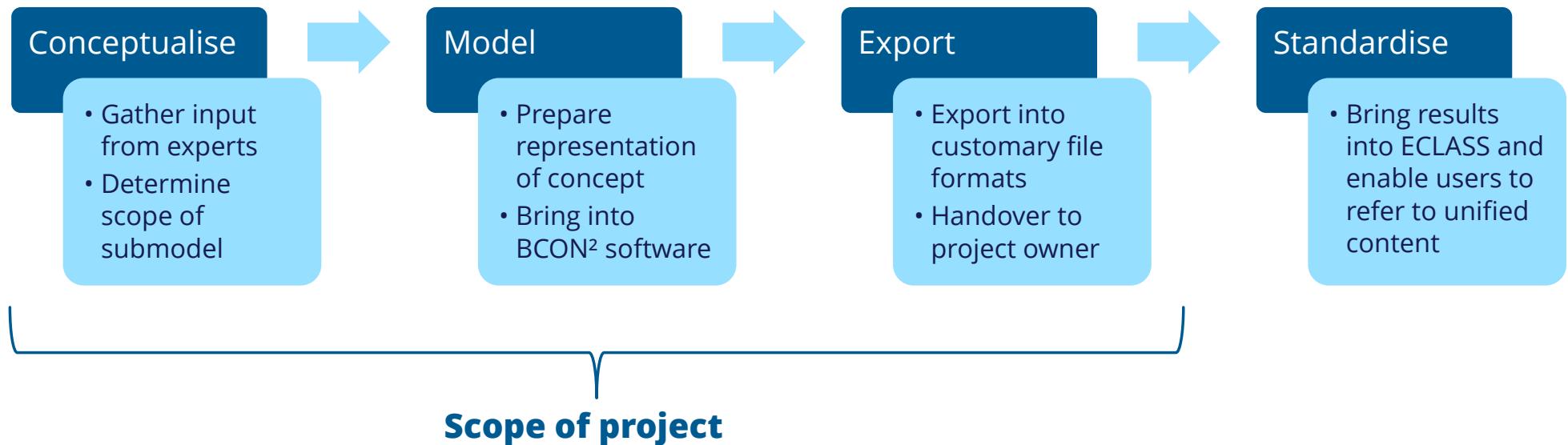
**Various programming systems** (represented by computer monitors with code brackets </>) are connected to the Local Repo, which contains Standard POUs.

**Different devices from different manufacturers** (represented by various industrial icons like a microchip, two monitors, a server, and a rack) are connected to the Local Repo.

**Out of scope** (represented by a large grey box) includes notes about brace levels and manufacturer statements.

**In various environments** (represented by icons of a factory, wind turbines, a robot arm, a cloud, a building, and a house) are shown at the bottom.

# Working procedure



## Herausforderungen

Beispiele und konkrete Unterschiede in Merkmale

## Konkrete Ergebnisse

IDTA Spec des AAS Submodel Templates IEC 61131 SPM mit Livedemo



**Questions,  
Feedback,  
Suggestion?**



# Danke für Ihr Kommen!

Ein Projekt gefördert vom



Bundesministerium  
für Wirtschaft  
und Klimaschutz

Durchgeführt von

