

WCO Data Model – how the lingua franca of eCustoms fits with Azerbaijan cross border document requirements

Experiences from a UNECE Project Supporting Customs Azerbaijan by Mapping Cross-border Regulatory Documents to International Standards

Agenda

1. Project tasks
2. Overview of the WCO DM and EUCDM in GEFEG.FX
3. Report of results - experiences

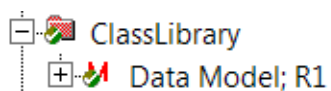
2. UNECE Project Tasks

- Collect data from **5 cross-border regulatory documents** (Customs Declarations and Certificates) as used in the Azerbaijan Single Window
- Define alignment with the **EU Customs Data Model** (based on **WCO** Data Model) and the **EU TRACES system** (based on **UN/CEFACT** Buy/Ship/Pay standard)
- Work together with Azerbaijani consultant to share **methods and GEFEG.FX** usage

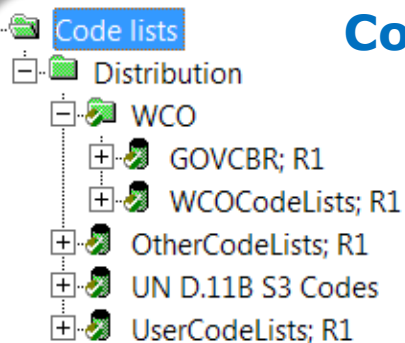
Documents defined by the Azeri Single Window team

- Certificate of conformity
- Certificate of origin
- Customs goods declaration
- Hygenic certificate
- Phytosanitary certificate

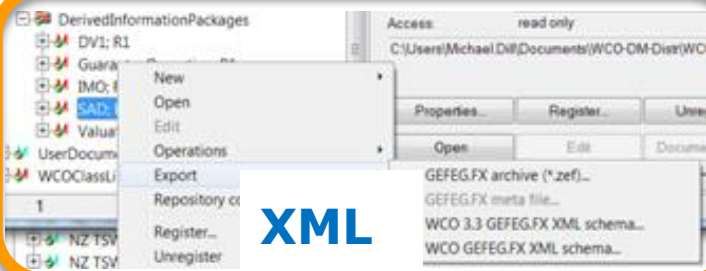
WCO Data Model Components



WCO Class Library

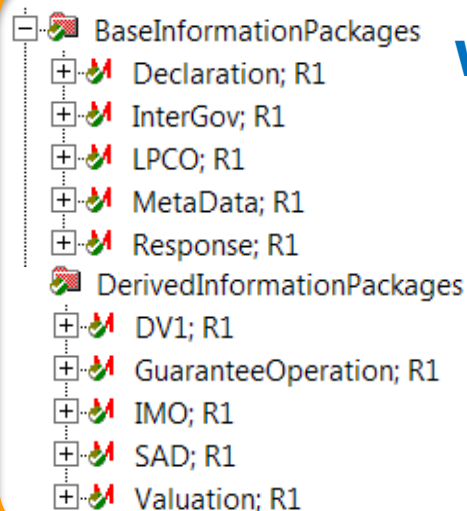
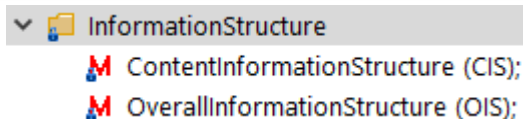


Code Lists



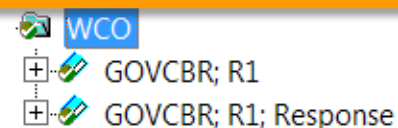
XML

Information Structure

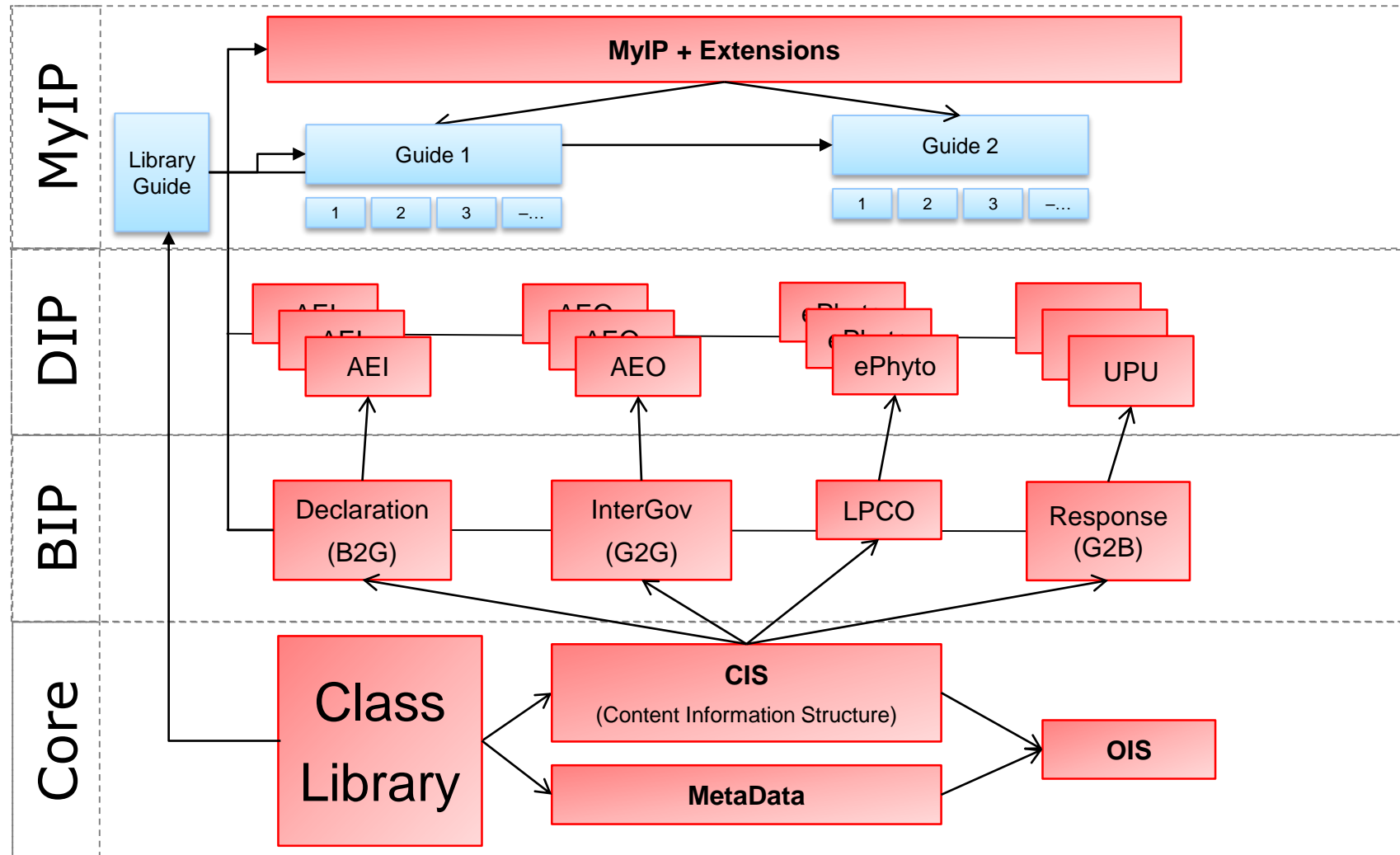


WCO Information Packages BIP + DIP

EDIFACT



Information Structure of WCO DM



The EU Customs Data Model ...

- is the model for Customs trans-European systems such as NCTS, AES, ICS and for Member States national customs clearance systems. Its overall objective is to provide a technical instrument that models the data requirements laid down in EU Customs legislation and present a single and genuine source of information for the technical developments of the different IT systems that are used for data processing by customs in the EU. In consequence, the data elements, which are used only in the context of paper-based declarations, are included exclusively in the reproduction of the legal text, but not in the mapping and structure reports.
- <https://svn.taxud.gefeg.com/svn/Documentation/EUCDM/EN/index.htm>

The EU Customs Data Model ...

EUCDM V3.0

Introduction

► Changes

UCC Annex B

► Legal text

► Guidance

▼ Data element view

Overview

Usage

► Data set view

UCC Annex A

► Legal text

► Guidance

► Data element view

► Data set view

UCC Annex 12-01

► Legal text

► Data element view

Annex B

STRUCTURE

MAPPING

USAGE

Annex B > Data set view > Structure > F1b

Data sets

[A1](#)

[A2](#)

[A3](#)

[B1](#)

[B2](#)

[B3](#)

[B4](#)

[C1](#)

[C2](#)

[D1](#)

[D2](#)

[D3](#)

[E1](#)

[E2](#)

[F2d](#)

[F3a](#)

[F3b](#)

[F4a](#)

[F4b](#)

[F4c](#)

[F4d](#)

[F5](#)

[G1](#)

[G2](#)

[G3](#)

[G4](#)

[G5](#)

[H1](#)

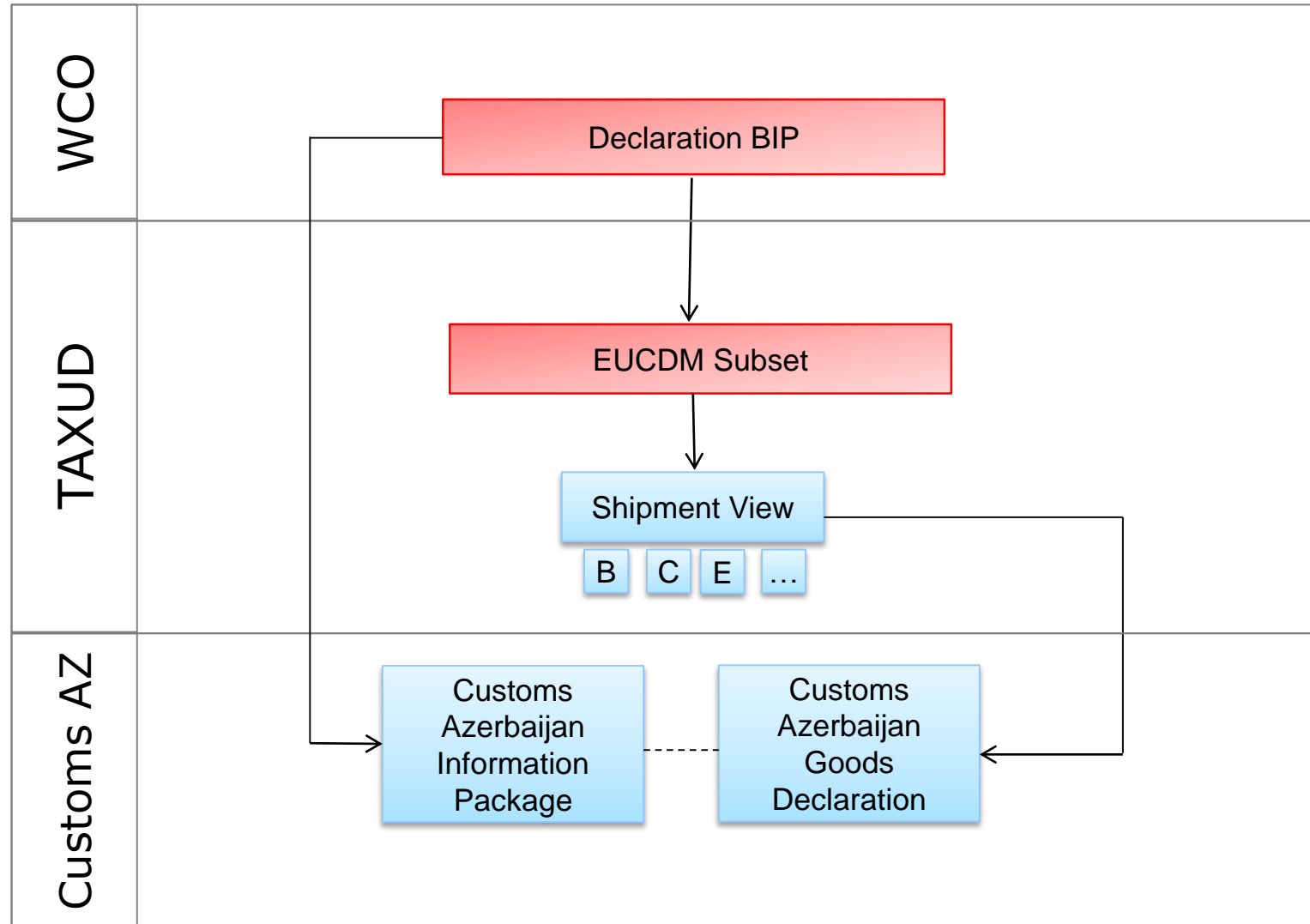
Annex B F1b

Entry summary declaration — Sea and inland waterways — Partial dataset lodged by the carrier

Articles 5(9) and 127 of the Code

UCC	Reference EUCDM WCO
2/5 LRN	Declaration Functional reference number
1/7 Specific circumstances indicator	Specific circumstances, coded
1/8 Signature/authentication	Authentication
3/20 Representative identification No.	Agent
3/21 Representative status code	Agent, coded
7/14 Identity of active means of transport crossing the border - id	Agent status, coded
7/14 Identity of active means of transport crossing the border - type of id code	BorderTransportMeans
7/14 Identity of active means of transport crossing the border - type of id code	Identification of means of transport
7/14 Identity of active means of transport crossing the border - type of id code	Type of identification of means of transport

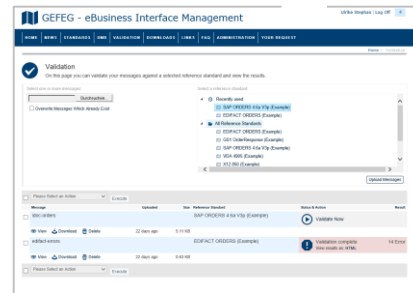
Hierarchy of WCO and EUCDM Relationship



Business Interface Management - Metadata Supply Chain

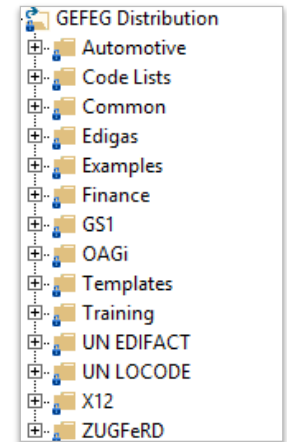
GEFEG.Portal

Web solution for collaboration, campaigning, publishing and validation via web with 365/24 availability , if wished behind firewall



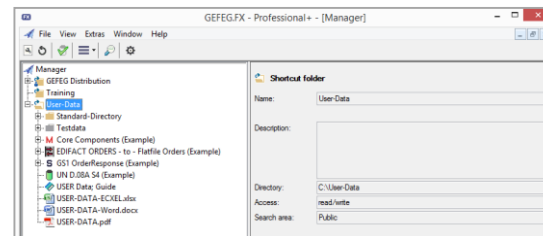
GEFEG.Content

Business standards and interfaces, such as UN/CEFACT XML, EDIFACT, GS1 EANCOM®, X12, ISO20022, WCO Data Model, VDA, and more



GEFEG.FX

Business Interface Management for the complete lifecycle



GEFEG.Services

Business consulting, concepts, extended user support, training, workshops





WORLD CUSTOMS ORGANIZATION
ORGANISATION MONDIALE DES DOUANES
WCO Data Model Official Distributor
Approved WCO Distributor

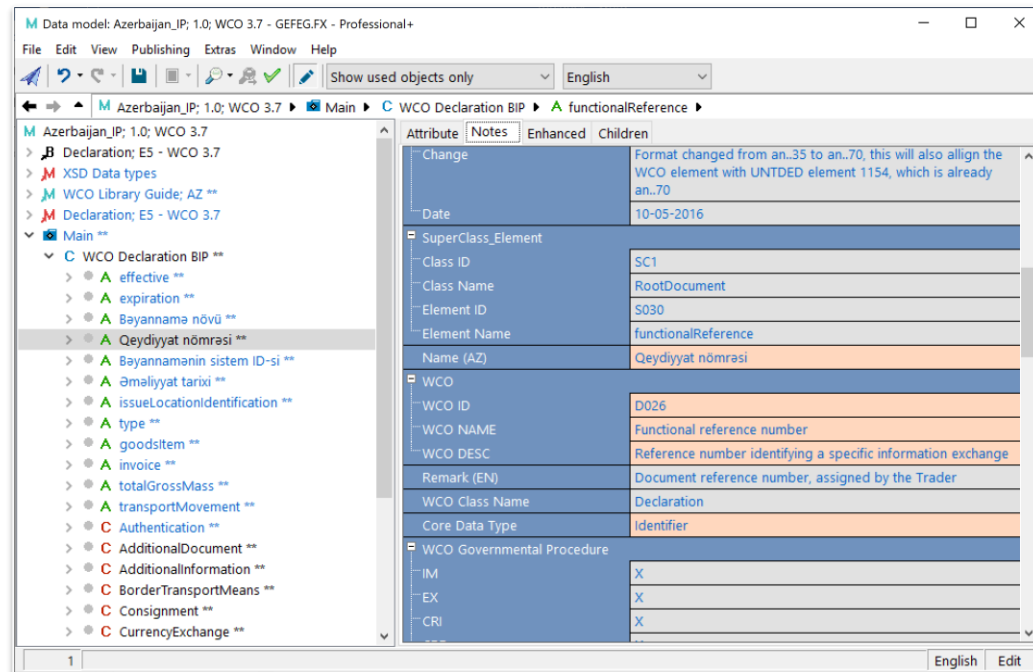
GEFEG.FX User Community in the Customs Sector

The World Customs Organization	General Administration of China Customs	Customs Administration of Brazil	The Federal Directorate of Finance Germany	Canada Border Services Agency	The European Commission, DG TAXUD
Finland Customs	Douanes de Côte d'Ivoire	South Africa Revenue Services	Ghana Revenue Authority	Customs Administration of the Netherlands	New Zealand Customs Service
U.S. Customs and Border Protection	Aduana Nacional Bolivia	Her Majesty's Royal Customs United Kingdom	Swedish Customs	Royal Customs of Oman	Thai Single Window
The Federal Administration of Public Revenue Argentina	SPF Finances of Belgium	The Ministry Of Economy Luxembourg	National Directorate of Customs Uruguay	Nigerian Customs Service	The Senegalese Customs
BluJay	Crimson Logic	Intrasoft	SAP + SAP GTS	And more...	

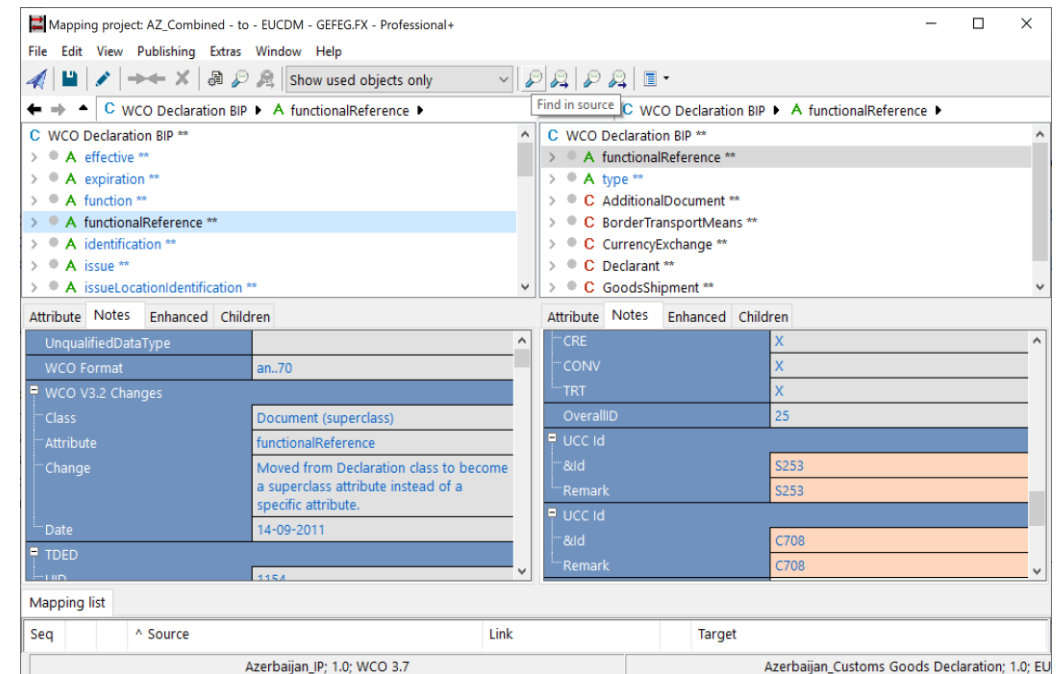


Harmonized Data set

- Data set

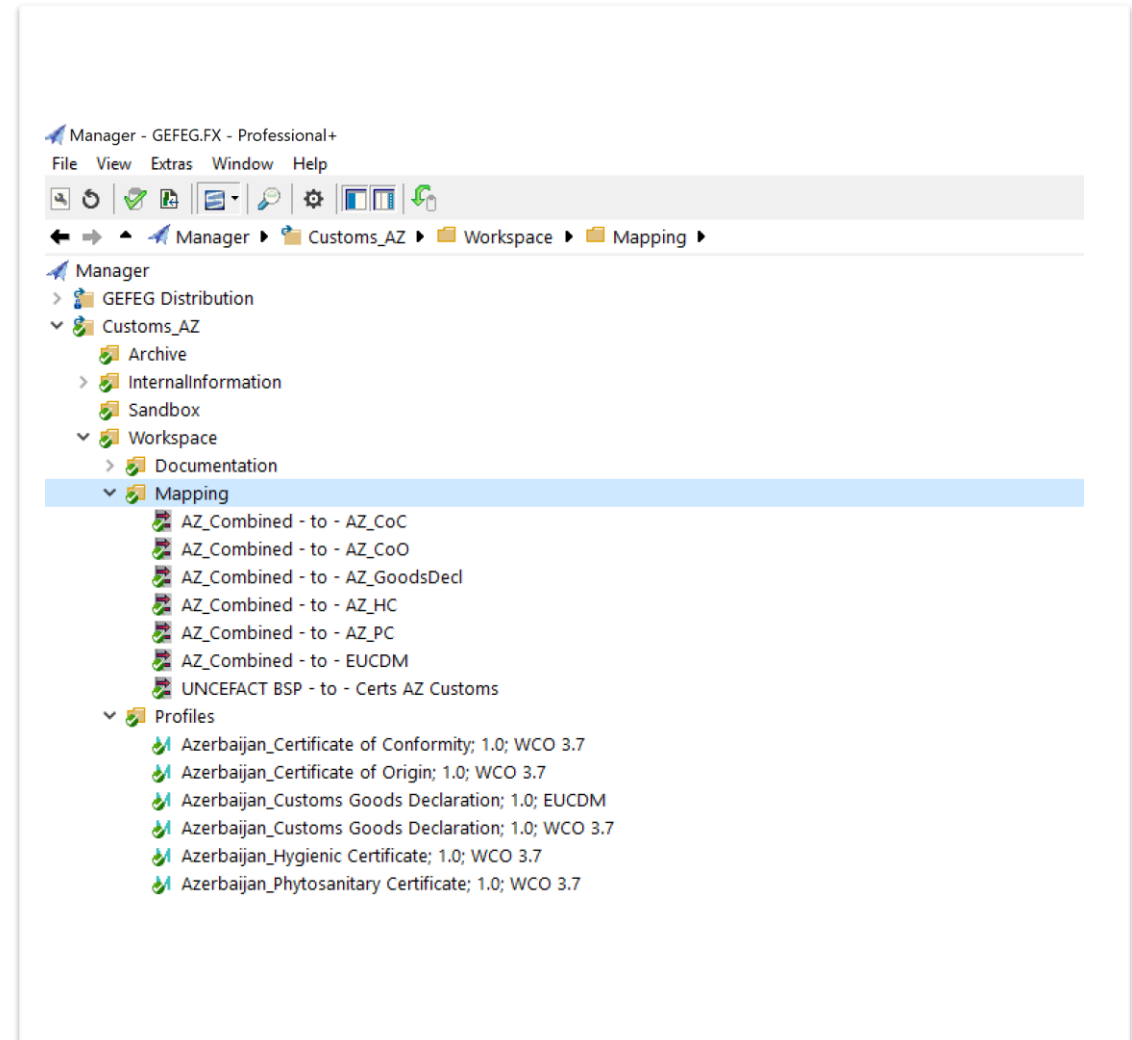


- Mapping to EUCDM subset



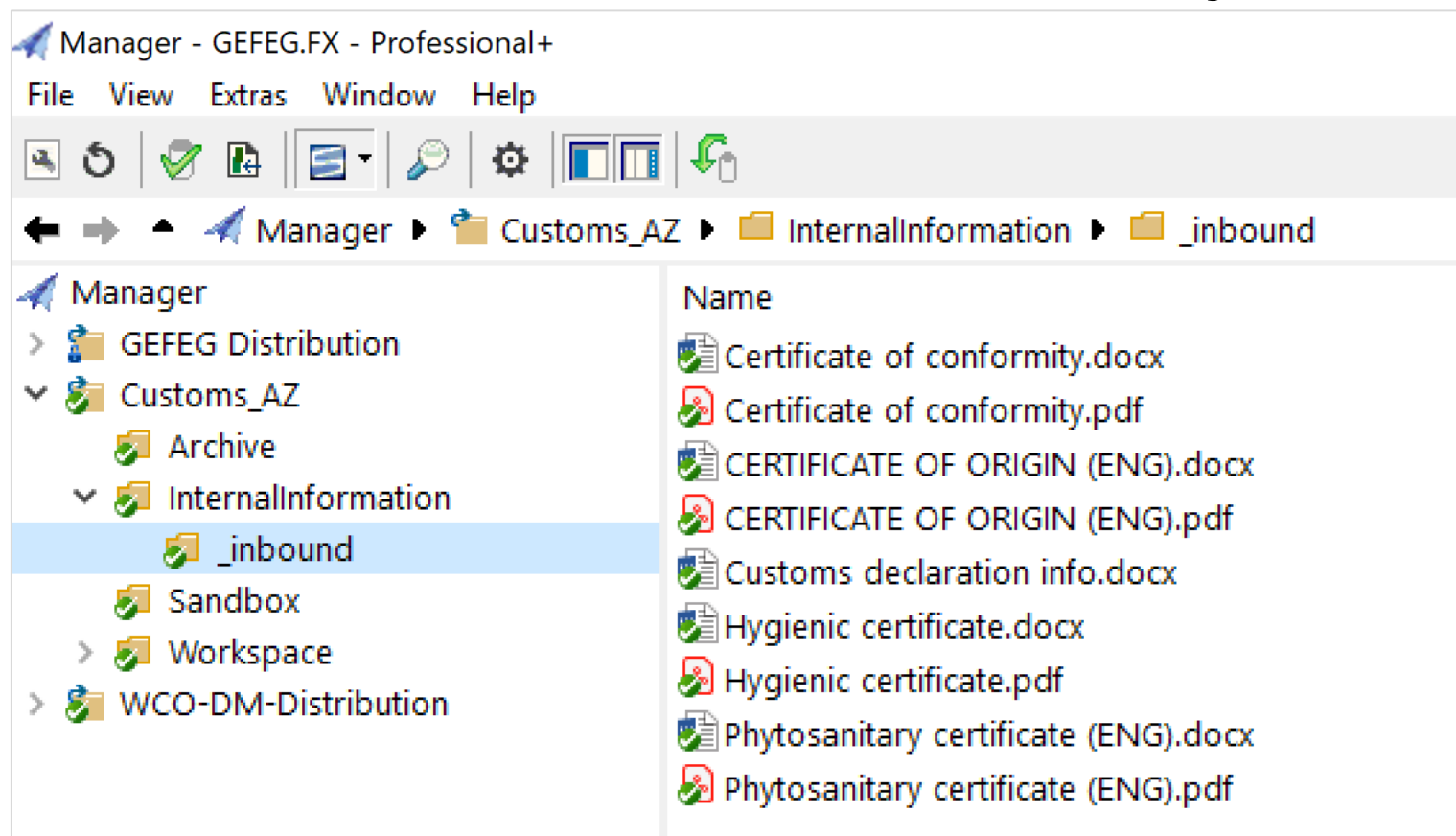
Harmonized Data set

- Data mappings to create profiles of Customs Azerbaijan based on the 5 documents defined by the Single Window team
- Profiles as a result of standardized data set

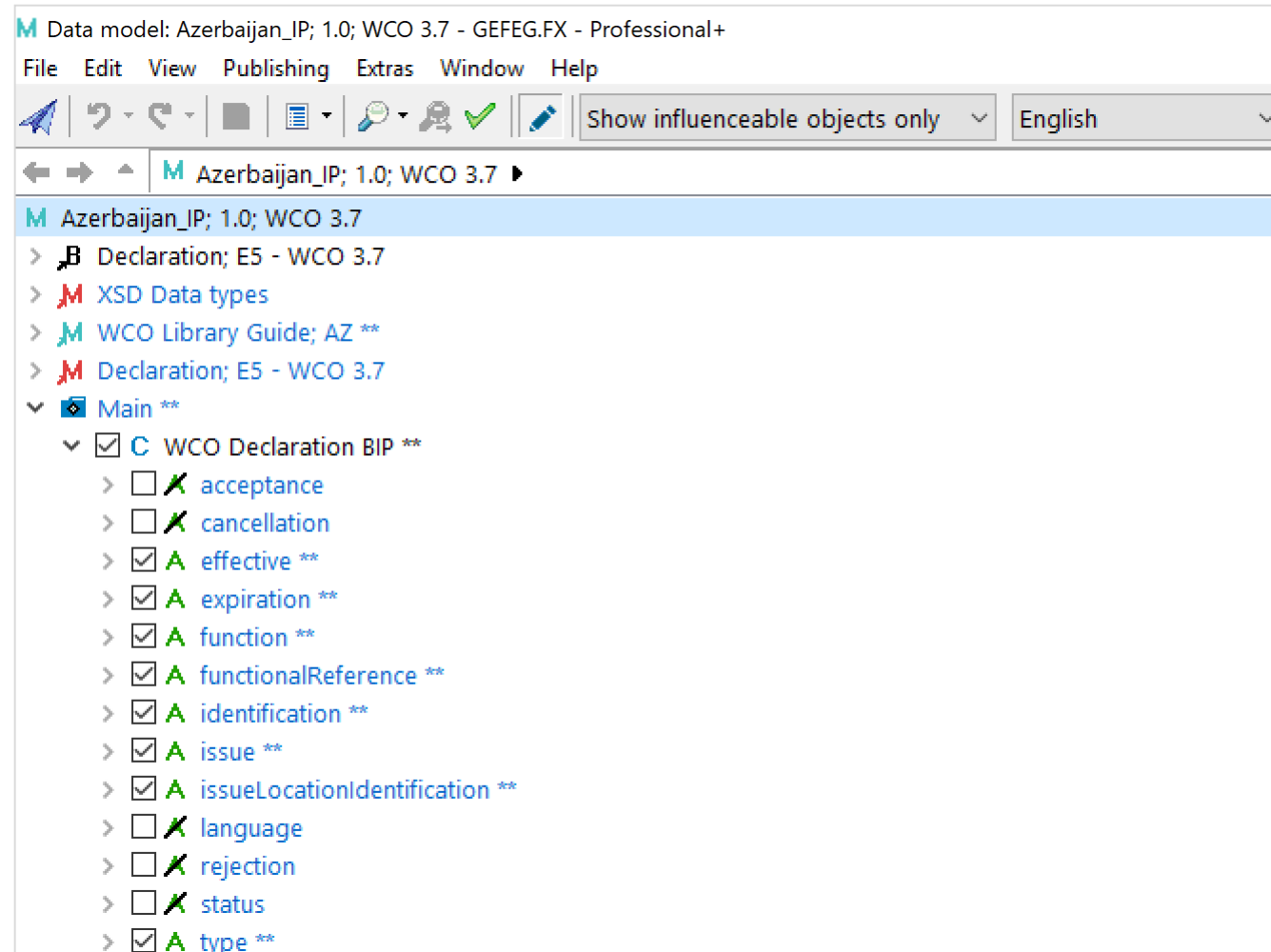


Data Harmonization to support Single Window

- Alignment of the data in a set of documents identified by the Single Window team and the State Customs Committee of Azerbaijan

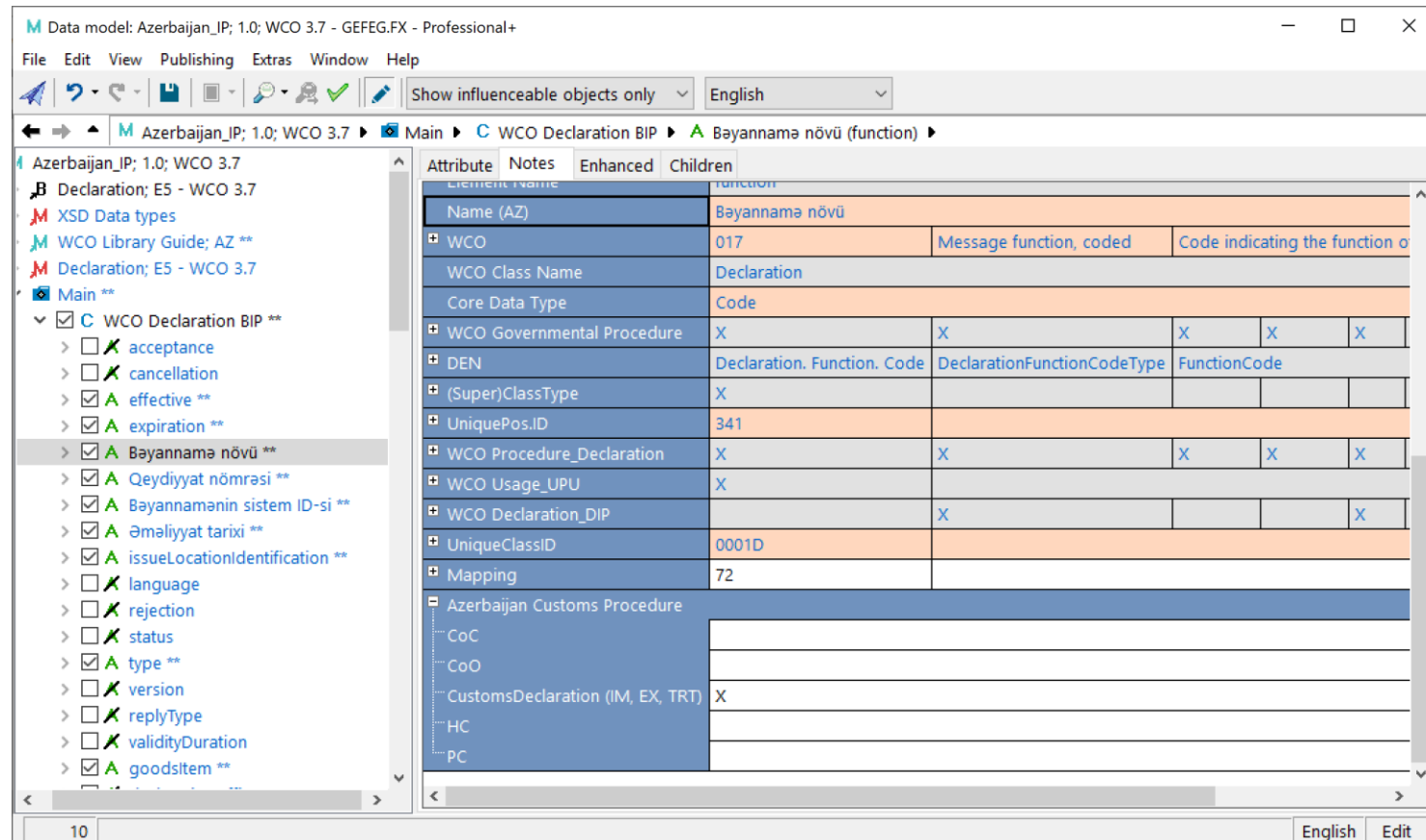


Support for Contextualisation: restriction



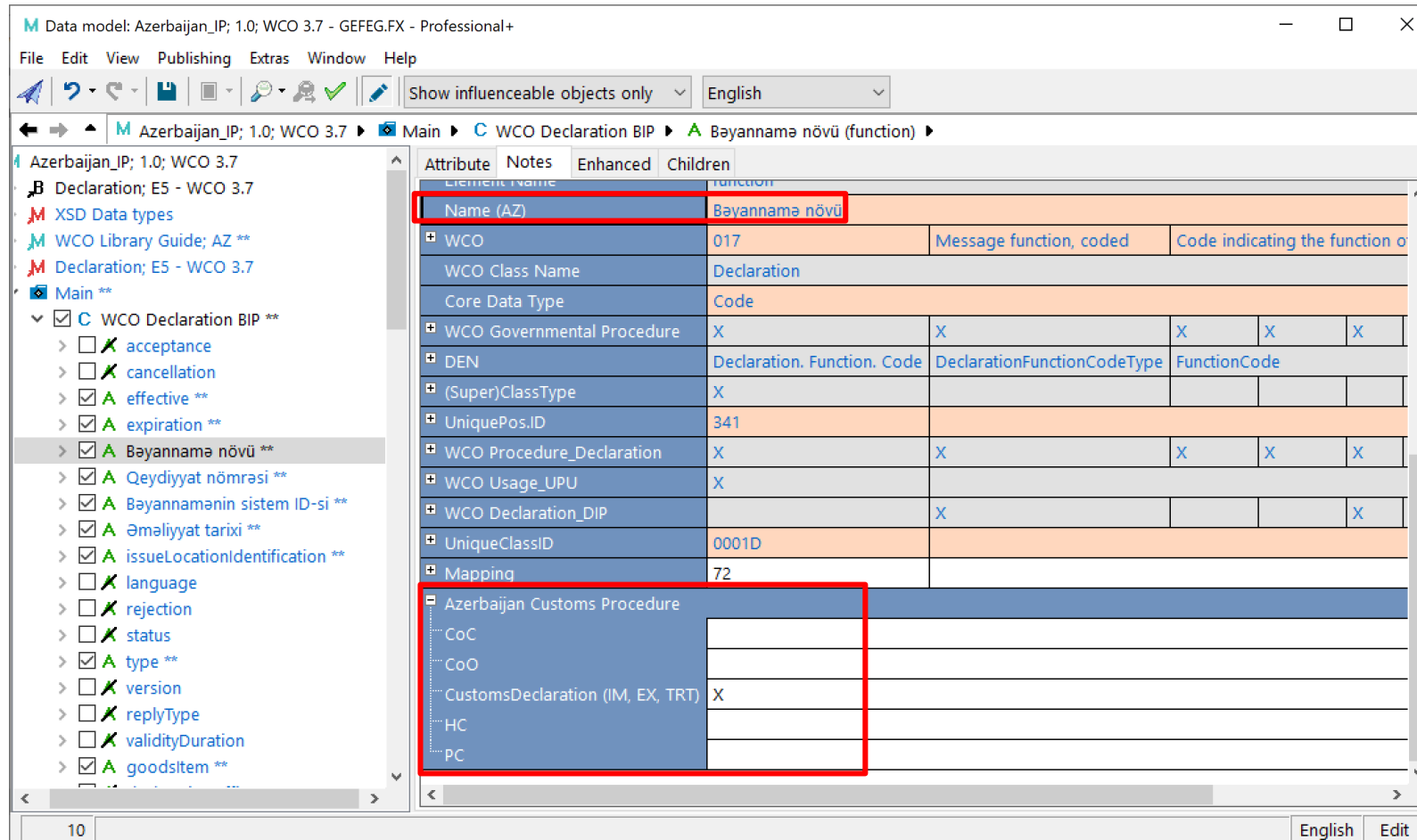
Support for Mapping: restriction

- Restriction of data model structures to remove those not required for use in national implementations



Support for Mapping: usage notes

- Language translations, usage notes for data elements in various procedures

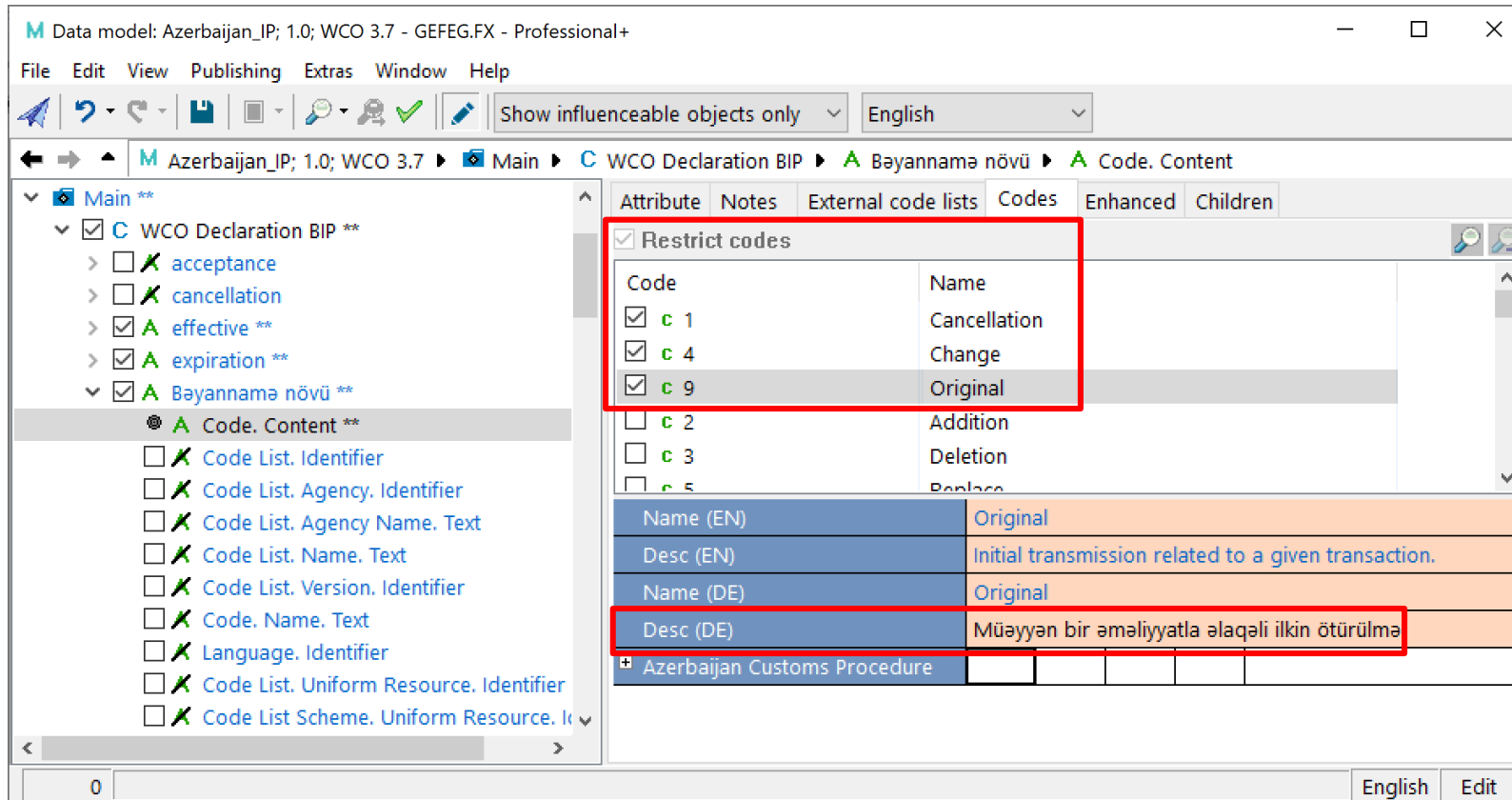


The screenshot displays the GEFEG Professional+ software interface. The main window shows the 'Usage Notes' tab for the 'Bayannamə növü (function)' data element. The interface includes a menu bar (File, Edit, View, Publishing, Extras, Window, Help) and a toolbar. The left-hand tree view shows the project structure, including 'Azerbaijan_IP; 1.0; WCO 3.7' and 'Main **'. The main table area displays the 'Usage Notes' for the selected data element. The table has columns for 'Attribute', 'Notes', 'Enhanced', and 'Children'. The 'Name (AZ)' attribute is highlighted with a red box, showing the value 'Bayannamə növü'. The 'Mapping' section is also highlighted with a red box, showing a list of procedures and their corresponding codes.

Attribute	Notes	Enhanced	Children
Name (AZ)	Bayannamə növü		
WCO	017	Message function, coded	Code indicating the function o
WCO Class Name	Declaration		
Core Data Type	Code		
WCO Governmental Procedure	X	X	X X X
DEN	Declaration. Function. Code	DeclarationFunctionCodeType	FunctionCode
(Super)ClassType	X		
UniquePos.ID	341		
WCO Procedure_Declaration	X	X	X X X
WCO Usage_UPU	X		
WCO Declaration_DIP		X	X
UniqueClassID	0001D		
Mapping	72		
Azerbaijan Customs Procedure			
CoC			
CoO			
CustomsDeclaration (IM, EX, TRT)	X		
HC			
PC			

Support for Mapping: code values

- Codes restriction, language translation



Development and Maintenance of other data

- Alignment to EU TRACES system data based on UNCEFACT Standards

Mapping project: UNCEFACT BSP - to - Certs AZ Customs - GEFEG.FX - Professional+

File Edit View Publishing Extras Window Help

Show influenceable objects only

C Exchanged Document ▶ A ID (Exchanged_Document. Identification. Identifier) ▶

C WCO Declaration BIP ▶ A identification ▶

Buy Ship Pay Master

Exchanged Document [0..1]

ID [0..1]

Issue Date Time [0..1]

Reference Document [0..unbounded]

Signatory Authentication [0..unbounded]

Effective Period [0..1]

Issue Location [0..1]

Logistics Transport Movement [0..unbounded]

Supply Chain Consignment [0..unbounded]

WCO Declaration BIP

effective [0..1]

identification [0..1]

issue [0..1]

issueLocationIdentification [0..1]

totalGrossMass [0..1]

Authentication [0..unbounded]

AdditionalDocument [0..unbounded]

BorderTransportMeans [0..unbounded]

Consignment [0..1]

EntryOffice [0..unbounded]

GoodsShipment [0..1]

BBIE CCTS Notes Enhanced Children

CCTS type

DictionaryEntryName

ObjectClassTerm

ObjectClassTermQualifier(s)

PropertyTerm

PropertyTermQualifier

RepresentationTerm

BBIE

Exchanged_Document. Identification. Identifier

Document

Exchanged

Identification

Identifier

Attribute Notes Enhanced Children

Desc (AZ)

Azerbaijan Customs Procedure

CoC

CoO

CustomsDeclaration (IM, EX, TRT)

HC

PC

Mapping list

Seq	Source	Link	Target
18 ✓	Postcode [0..unbounded]	7	postcode [0..1]
19 ✓	Street Name [0..unbounded]	9	line [0..1]
20 ✓	City Name [0..1]	4	issue [0..1]
21 ✓	City Name [0..1]	4	cityName [0..1]
22 ✓	Country Code [0..1]	5	issueLocationIdentification [0..1]

BSP D18B Master Guide; AZ

Azerbaijan Phytosanitary Certificate; 1.0; WCO 3.7

View

Development and Maintenance of other data

- Further restrictions to have subset profiles based on the standardized data set, documentation and XML schemas to develop syntax based messages

Start		Structure		Guideline		Components		Go back			
Occurrence		Element/Attribute		Customs Declaration		CoC		CoO		HC	
WCO Declaration BIP											
0 .. 1	effective			X						X	
0 .. 1	expiration					X					
0 .. 1	function			X							
0 .. 1	functionalReference			X		X		X		X	
0 .. 1	identification			X		X				X	
0 .. 1	issue			X		X				X	
0 .. 1	issueLocationIdentification							X		X	
0 .. 1	type			X							
0 .. 1	goodsItem							X			
0 .. 1	invoice							X			
0 .. 1	totalGrossMass									X	
0 .. 1	transportMovement			X							
0 .. unbounded	Authentication										
0 .. unbounded	Authenticator										
0 .. 1	name					X					
0 .. 1	identification					X					
0 .. unbounded	AuthorisedPerson										
0 .. 1	name					X				X	
0 .. 1	identification					X					

Experiences/ Results

- The reuse the WCO Data Model as common reference and UNCEFACT standards led to increased capacity and speed in aligning data and documents to the EU Customs Data Model by
- Good demo for National localization of the WCO Data Model and EUCDM Information Package
- Cover the requirements by extending the EUCDM Information Package but still based on wider WCO Data Model
- The use of GEFEG.FX software for data standardization and harmonization of cross-border regulatory documents allows for keeping the national AZ Level independent from WCO DM and its EU CDM subset through inheritance methods -> thus clear, distinct IPR-levels, easier migration to newer versions
- Use of WCO DM as common reference allows to compare and align all logical subsets and national implementations
- The tools allows for the alignment to documents expressed in other models, modelling methodologies or XML schema such as the UNCEAFCT Buys/Ship/Pay Reference Data Model to cover Agriculture certificates data
- Maybe JSON and JSON LD generation for AI support should be added to WCO DM
- More knowledge regarding the detailed IP data structures is needed – training!

makes the WCO Data Model an ideal choice for Customs?



Innovative data model offering process support and the linking of data as the base for data collection and data processing

Inbuilt harmonized data structures to facilitate data collection – Global reference for national data alignment

Globally used and harmonized data model with a clear change request and updating strategy to meet new requirements of the stakeholders

Data Harmonization

**Reduction of
data
redundancies
and duplication**

**Capture, Define
(reuse WCO
DM), Analyze,
Reconcile**

**Pre-requisite for
the alignment and
integration of
applications**

