

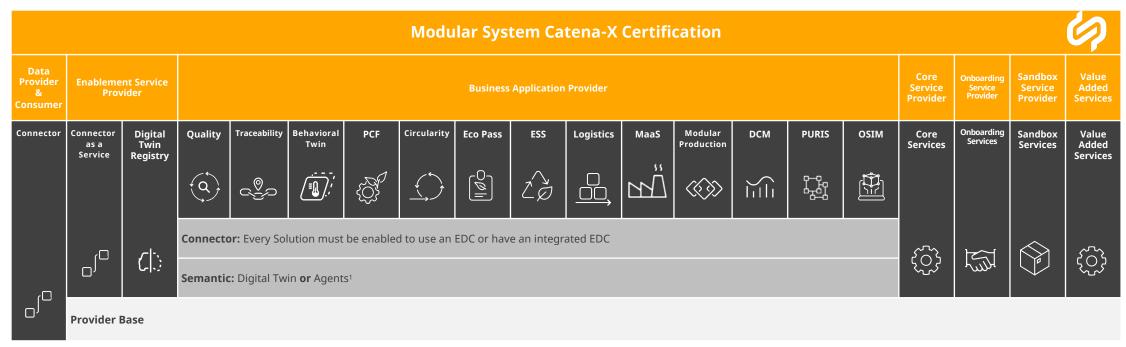
Modular System Version 3.4.1

26.05.2025

Valid for:

- CX-Jupiter
- CX-lo

Modular System - Overview



¹ Each standard in the respective use case defines for itself which model may be used.

Detail View (1/3) | Business Application Provider

Modular System Catena-X Certification



Business Application Provider²

Use Case	Qua	lity	Traceability	Beł	navioral T	win	PC	CF			Circularity	′		Eco Pass	ESS	Logistics	Ma	ıaS	MP	DC	М			PURIS			OSIM
Role / Capability	4s OEM data provider	4s Supplier data provider	Fraceability Use Case	Behavioral Twin Endurance Predictor	Behavioral Twin Endurance Estimator	Behaviour Twin Health Indicator	PCF Exchange	PCF Calculation	Secondary Material Content	Services	CE-Assistant	Secondary Marketplace⁴	Asset Tracking	Use Case Circular Economy - Digital Product Passport	ESS Use Case	Logistics and Customs Use Case	Manufacturing Capability Exchange	Request for Quotation Exchange	Shop Floor Information Service	As a Supplier	As a Costumer	Delivery Information Exchange	Short-Term Material Demand Exchange	Planned Production Output Exchange	Item Stock Exchange	Days of Supply Exchange	Online Control and Simulation
Base Standard	CX-0	123	CX- 0125	CX- 0059	CX- 0138	CX- 0141	CX- 0136	PCF- Rulebook	/	CX-(0053	CX- 0117	CX- 0105 CX- 0045	CX- 0143	CX- 0144	CX- 0150	CX- 0115	CX- 0129	CX- 0142	CX-0		CX- 0118	CX- 0120	CX- 0121	CX- 0122	CX- 0145	CX- 0133
Additional	/	/	CX- 0005 ¹	/	/	/	/	/	/	/	CX- 0136 ⁶	/	/	/	/	/	/	/	/				CX-0146 ⁶				/
Industry Core ^{5,6}	1	1	CX- 0127	/	/	/	CX-()126		CX-0126 CX-0127		/	CX- 0127 ⁷	CX- 0126 CX- 0127	/	CX- 0126 CX- 0127	/	1	/				CX-0126				/
Connector ³	CX-0018																										

Digital Twin CX-0002 or Agents CX-0084

Semantic Provider Base

CX-00088

¹ If "Additional" Standards are used or offered in a Solution, the certification of these Standards is required.

² Business Application Provider has to perform an interoperability check.

³ If no EDC is implemented in the solution, at least the Data Management-API is subject of the certification.

⁴ Can only be provided in combination with certified Core Services.

⁵ Digital Twins have to contain the defined Specific Asset Ids. Additional use case specific data models have to be provided as Digital Twin submodels. If the respective data models are used, these have to be certified against the specification defined within the Industry Core standard.

⁶ When using certain features, the referenced section of the standard is required.

⁷ When using certain features, the focussed section of the standard is optional.

⁸ TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP and TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).

Detail View (2/3) | Remaining Roles

Modular System Catena-X Certification



	Data Provider & Consumer	er Enablement Service Provider		Core Service Provider ⁵	Onboarding Service Provider ²	Sandbox Service Provider	
Use Case	Connector	Connector as a Service	Digital Twin Registry as a Service	Core Services	Onboarding Services	Sandbox Services ⁴	
ole / Capability ase Standard	When using a CX-Certified enablement service, no separate certification is required CX-0018	Connector CX-0018	Digital Twin Registry CX-0002	Identity Wallet:	CX-0006 CX-0009	Connector:	
dditional¹	CX-0002 CX-0003 CX-0005 CX-0007 CX-0045 CX-0055 CX-0084 CX-0126 CX-0127	Backend Integ	ration Pattern 1 0003, CX-0055 ration Pattern 2 , CX-0084	CX-0001 CX-0014 CX-0015 CX-0053 Marketplace: CX-0054 BPDM: CX-0010 CX-0012 CX-0074		Identity Wallet:	
		Simple Data Exchanger CX-0007 Data Chain CX-0005, CX-0045		CX-0076		Marketplace: CX-0054 Golden Record (optional) CX-0076	

¹ If "Additional" Standards are used or offered in a Solution, the certification of these Standards is required.

² Limitations Jupiter: this role currently only covers part of the registration process in the Catena-X data space. The currently available process is depicted in figure "General Onboarding Process".

³ TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP. TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).

⁴ Catena-X Sandboxes contain all services required for the operation of a minimum valuable Catena-X data space, namely. CSP-B services (excluding the cleansing service of BPDM and GXDCH integration) and OSP services.

⁵ Core Services B lists Core Services that can only be operated once in the Catena-X data space due to business reasons or technical limitations and are therefore tendered via the nomination process of the Association.

Detail View (3/3) | Remaining Roles

Modular System Catena-X Certification



Value Added Services¹

Value Added Service	Data Quality Dashboard	Bank Data Verification	Natural Person Screening	BPDM Fraud Prevention	Country Risk	Sanction Watchlist Dashboard	Company Certificate Management
Standard	CX-0076 CX-0077	CX-0078	CX-0079	CX-0080	CX-0081	CX-0116	CX-0135

Provider Base

CX-0008²

¹ Can only be provided in combination with certified Core Services.

²TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP. TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).



Quality ¹	As OEM data provider: CX-0123	As Supplier data provider: CX-0123			
Connector ²	CX-0018				
Semantic	Digital Twin: CX-0002 or Agents: CX-0084				
Provider Base	CX-0008 ³				

¹ Business Application Provider has to perform an interoperability check. ² If no EDC is implemented in the solution, at least the Data Management-API is subject of the certification.

³ TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP and TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).



Traceability ¹	CX-0125 Additional ² : CX-0005
Industry Core ^{5,6}	CX-0127: It is tightly bound to the Industry Core, as Quality Alerts and Quality Investigation Requests should reference batches and/or serialized part instances as described in the standard CX - 0127 INDUSTRY CORE: PART INSTANCE. Regarding CX-0005: This standardization is built upon existing standards, such as CX-0127.
Connector ³	CX-0018
Semantic	Digital Twin: CX-0002 or Agents: CX-0084
Provider Base	CX-0008 ⁴

¹ Business Application Provider has to perform an interoperability check.

² If "Additional" Standards are used or offered in a Solution, the certification of these Standards is required.

³ If no EDC is implemented in the solution, at least the Data Management-API is subject of the certification.

⁴TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP and TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).

⁵ Digital Twins have to contain the defined Specific Asset Ids. Additional use case specific data models have to be provided as Digital Twin submodels. If the respective data models are used, these have to be certified against the specification defined within the Industry Core standard.

⁶ When using certain features, the referenced section of the standard is required.



Behavioral Twin ¹	Behavioral Twin Endurance Predictor: CX-0059	Behavioral Twin Endurance Estimator: CX-0138	Health Indicator: CX-0141			
Industry Core ^{4, 5}						
Connector ²	CX-0018					
Semantic	Digital Twin: CX-0002 or Agents: CX-0084					
Provider Base	CX-0008 ³					

¹Business Application Provider has to perform an interoperability check.

² If no EDC is implemented in the solution, at least the Data Management-API is subject of the certification.

³TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP and TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).

⁴ Digital Twins have to contain the defined Specific Asset Ids. Additional use case specific data models have to be provided as Digital Twin submodels. If the respective data models are used, these have to be certified against the specification defined within the Industry Core standard.

⁵When using certain features, the referenced section of the standard is required.



PCF ¹	CX-0136
Connector ²	CX-0018
Semantic	Digital Twin: CX-0002 or Agents: CX-0084
Provider Base	CX-0008 ³

¹Business Application Provider has to perform an interoperability check.

² If no EDC is implemented in the solution, at least the Data Management-API is subject of the certification.

³TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP and TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).



Circularity ¹	Circularity Core: CX-0131	Secondary Marketplace ² : CX-0117	Asset Tracking: CX-0105 CX-0045		
	Secondary Material Content:	EoL / Dismantling Services: CX-0053	CE-Assistant: CX-0053		
			Additional (Recommended)4: CX-0136		
Industry Core ^{4,5}	CX-0126: 2.0 Industry Core: Part Type with the Aspect Model "SingleLevelBomAsPlanned" (RECOMMENDED) CX-0127: - 2.0 Industry Core: Part Instance with the Aspect Model "SerialPart" - 2.0 Industry Core: Part Instance with the Aspect Model "SingleLevelBoMAsBuilt"	CX-0126: 2.0 Industry Core: Part Type with the Aspect Model "SingleLevelBomAsPlanned" (RECOMMENDED) CX-0127 - 2.0 Industry Core: Part Instance with the Aspect Model "SerialPart" - 2.0 Industry Core: Part Instance with the Aspect Model "SingleLevelBoMAsBuilt"	CX-0126: 2.0 Industry Core: Part Type with the Aspect Model "SingleLevelBomAsPlanned" (RECOMMENDED) CX-0127 - 2.0 Industry Core: Part Instance with the Aspect Model "SerialPart" - 2.0 Industry Core: Part Instance with the Aspect Model "SingleLevelBoMAsBuilt"		
Connector ³	CX-0018				
Semantic	Digital Twin: CX-0002 or Agents: C	X-0084			
Provider Base	CX-0008 ⁷				

¹Business Application Provider has to perform an interoperability check.

² Can only be provided in combination with certified Core Services.

³ If no EDC is implemented in the solution, at least the Data Management-API is subject of the certification.

⁴When using certain features, the referenced section of the standard is required.

⁵ Digital Twins have to contain the defined Specific Asset Ids. Additional use case specific data models have to be provided as Digital Twin submodels. If the respective data models are used, these have to be certified against the specification defined within the Industry Core standard.

⁶When using certain features, the focussed section of the standard is optional.

⁷TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP and TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).



Eco Pass ¹	CX-0143
Industry Core ^{4,5}	CX-0126: As described in the industry core standards <u>CX-0126</u> and <u>CX-0127</u> , when digital twins MUST include the key digitalTwinType. CX-0127: As described in the industry core standards <u>CX-0126</u> and <u>CX-0127</u> , when digital twins MUST include the key digitalTwinType.
Connector ²	CX-0018
Semantic	Digital Twin: CX-0002 or Agents: CX-0084
Provider Base	CX-0008 ³

¹Business Application Provider has to perform an interoperability check.

² If no EDC is implemented in the solution, at least the Data Management-API is subject of the certification.

³ TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP and TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).

⁴ Digital Twins have to contain the defined Specific Asset Ids. Additional use case specific data models have to be provided as Digital Twin submodels. If the respective data models are used, these have to be certified against the specification defined within the Industry Core standard.

⁵When using certain features, the referenced section of the standard is required.



ESS ¹	CX-0144
Connector ²	CX-0018
Semantic	Digital Twin: CX-0002 or Agents: CX-0084
Provider Base	CX-0008 ³

¹Business Application Provider has to perform an interoperability check.

² If no EDC is implemented in the solution, at least the Data Management-API is subject of the certification.

³TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP and TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).



Logistics ¹	CX-0150
Industry Core ^{4,}	CX-0126 CX-0127
Connector ²	CX-0018
Semantic	Digital Twin: CX-0002 or Agents: CX-0084
Provider Base	CX-0008 ³

¹Business Application Provider has to perform an interoperability check.

² If no EDC is implemented in the solution, at least the Data Management-API is subject of the certification.

³TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP and TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).

⁴ Digital Twins have to contain the defined Specific Asset Ids. Additional use case specific data models have to be provided as Digital Twin submodels. If the respective data models are used, these have to be certified against the specification defined within the Industry Core standard.

⁵ When using certain features, the referenced section of the standard is required.



MaaS ¹	Manufacturing Capability Exchange: CX-0115	CX-0129
Connector ²	CX-0018	
Semantic	Digital Twin: CX-0002 or Agents: CX-0084	
Provider Base	CX-0008 ³	

¹Business Application Provider has to perform an interoperability check.

² If no EDC is implemented in the solution, at least the Data Management-API is subject of the certification.

³TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP and TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).



Modular Production ¹	Shop Floor Information Service: CX-0142
Connector ²	CX-0018
Semantic	Digital Twin: CX-0002 or Agents: CX-0084
Provider Base	CX-0008 ³

¹Business Application Provider has to perform an interoperability check.

² If no EDC is implemented in the solution, at least the Data Management-API is subject of the certification.

³TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP and TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).



DCM ¹	CX-0128 Additional ⁴ : CX-0146: 5.10 Supply Chain Disruption Notifications To enable a quick information flow outside a capacity group and the DCM process with regards to upcoming disruptions in the supply chain and potential effect beyond the one-to-one business relationship, a notifications functionality MAY be used. If a business partner decides to use this feature it MUST be used conforming to [CX-0146].
Industry Core ^{4,5}	CX-0126: Regarding CX-0128: When registering Submodels with semanticId WeekBasedMaterialDemand, the data provider (supplier) MUST reuse the IDs mandated in [CX-0126], section 2.1.4. Regarding CX-0146: This standard utilizes the Catena-X Material Global Asset ID as an optional property in the DemandAndCapacityNotification aspect model, that needs to be compliant to standard [CX-0126] Industry Core: Part Type.
Connector ²	CX-0018
Semantic	Digital Twin: CX-0002 or Agents: CX-0084
Provider Base	CX-0008 ³

¹Business Application Provider has to perform an interoperability check.

² If no EDC is implemented in the solution, at least the Data Management-API is subject of the certification.

³TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP and TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).

⁴ When using certain features, the referenced section of the standard is required.

⁵ Digital Twins have to contain the defined Specific Asset Ids. Additional use case specific data models have to be provided as Digital Twin submodels. If the respective data models are used, these have to be certified against the specification defined within the Industry Core standard.

⁶When using certain features, the referenced section of the standard is required.



PURIS ¹	CX-0118	CX-0120	CX-0121	CX-0122	CX-0145
	Additional ⁵ : CX-0146:	Additional ⁵ : CX-0146:	Additional⁵: CX-0146:	Additional ⁵ : CX-0146:	Additional 5: CX-0146:
	5.10 Supply Chain Disruption Notifications To enable a quick information flow outside a capacity group and the DCM process with regards to upcoming disruptions in the supply chain and potential effect beyond the one-to-one business relationship, a notifications functionality MAY be used. If a business partner decides to use this feature it MUST be used conforming to [CX-0146].	5.10 Supply Chain Disruption Notifications To enable a quick information flow outside a capacity group and the DCM process with regards to upcoming disruptions in the supply chain and potential effect beyond the one-to-one business relationship, a notifications functionality MAY be used. If a business partner decides to use this feature it MUST be used conforming to [CX-0146].	5.10 Supply Chain Disruption Notifications To enable a quick information flow outside a capacity group and the DCM process with regards to upcoming disruptions in the supply chain and potential effect beyond the one-to-one business relationship, a notifications functionality MAY be used. If a business partner decides to use this feature it MUST be used conforming to [CX-0146].	5.10 Supply Chain Disruption Notifications To enable a quick information flow outside a capacity group and the DCM process with regards to upcoming disruptions in the supply chain and potential effect beyond the one-to-one business relationship, a notifications functionality MAY be used. If a business partner decides to use this feature it MUST be used conforming to [CX-0146].	5.10 Supply Chain Disruption Notifications To enable a quick information flow outside a capacity group and the DCM process with regards to upcoming disruptions in the supply chain and potential effect beyond the one-to-one business relationship, a notifications functionality MAY be used. If a business partner decides to use this feature it MUST be used conforming to [CX- 0146].
Industry Core ^{4,5}	CX-0126: The definition of identification da	ata (Catena-X ID, Asset Administration Shell	ID, specific asset ID) MUST follow t	he Industry Core Part Type [CX-0126]	
Connector ²	CX-0018				
Semantic	Digital Twin: CX-0002 or Agents: CX-0084				

CX-0008³

Provider Base

¹Business Application Provider has to perform an interoperability check.

² If no EDC is implemented in the solution, at least the Data Management-API is subject of the certification.

³TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP and TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).

⁴ Digital Twins have to contain the defined Specific Asset Ids. Additional use case specific data models have to be provided as Digital Twin submodels. If the respective data models are used, these have to be certified against the specification defined within the Industry Core standard.

⁵When using certain features, the referenced section of the standard is required.



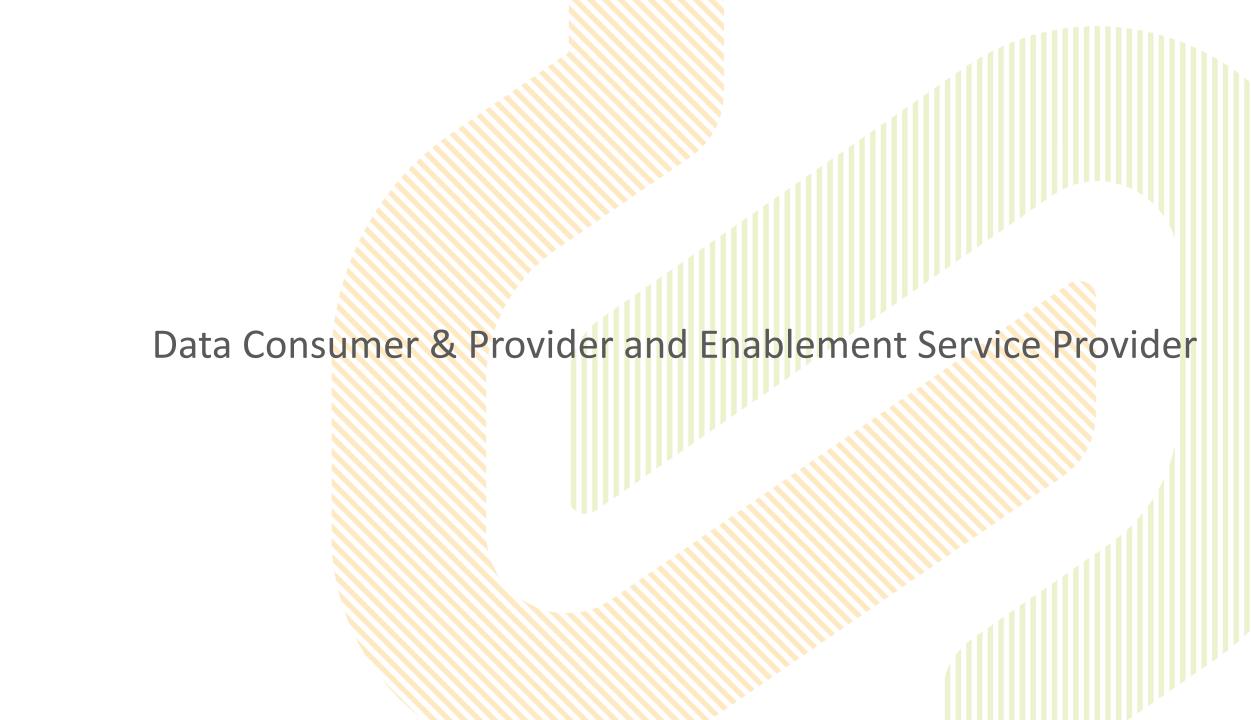
OSIM ¹	CX-0133
Connector ²	CX-0018
Semantic	Digital Twin: CX-0002 or Agents: CX-0084
Provider Base	CX-0008 ³

¹Business Application Provider has to perform an interoperability check.

³TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP and TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).



² If no EDC is implemented in the solution, at least the Data Management-API is subject of the certification.





Modular System – Data Provider and Consumer

Connector	When using a CX-Certified enablement service, no separate certification is required
	CX-0018
	Additional ¹ : CX-0002 CX-0003 CX-0005 CX-0007 CX-0045 CX-0055 CX-0126 CX-0127

¹If "Additional" Standards are used or offered in a Solution, the certification of these Standards is required.



Modular System – Enablement Service Provider

Connector as a Service	Connector as a Service CX-0018
	Additional ¹ : Backend Integration Pattern 1 CX-0002 CX-0003 CX-0055
	Additional¹: Backend Integration Pattern 2 CX-0055 CX-0084
	Additional¹: Simple Data Exchanger CX-0007
	Additional¹: Data Chain CX-0005 CX-0045
Provider Base	CX-0008 ²

¹ If "Additional" Standards are used or offered in a Solution, the certification of these Standards is required.

²TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP. TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).

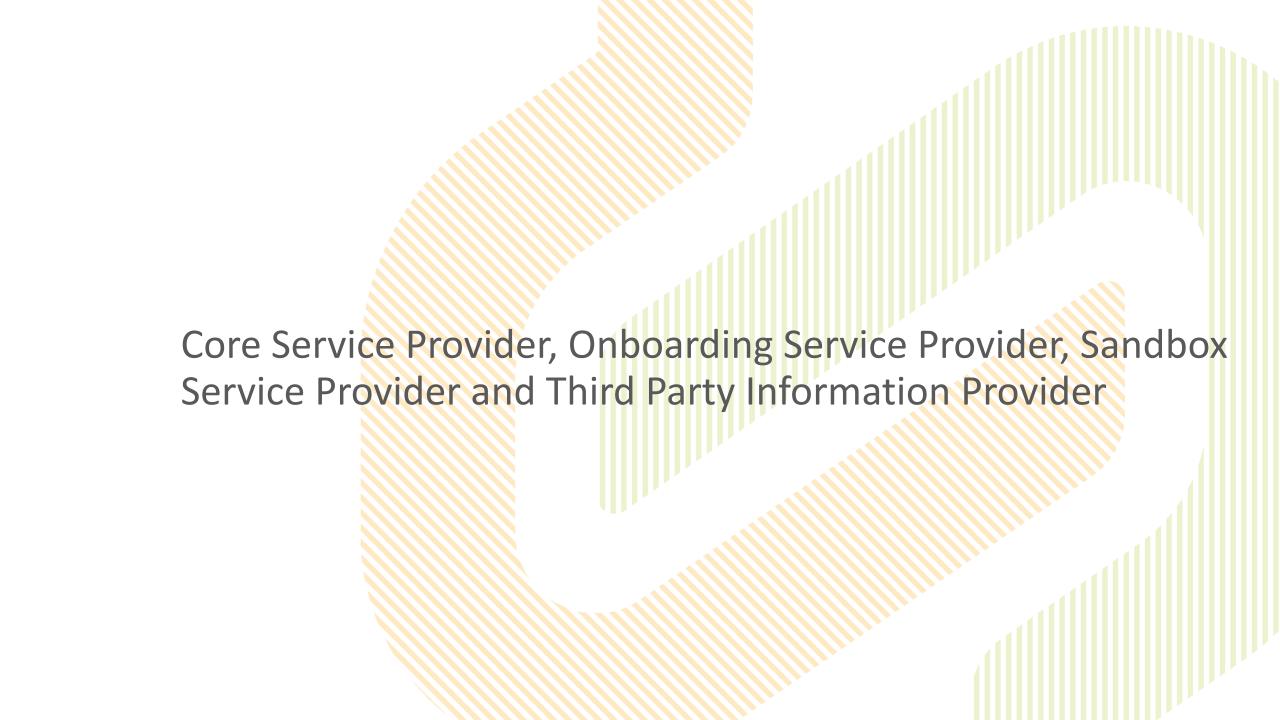


Modular System – Enablement Service Provider

Digital Twin Registry as a Service	Digital Twin Registry aaS CX-0002
	Additional ¹ : Backend Integration Pattern 1 CX-0002 CX-0003 CX-0055
	Additional¹: Backend Integration Pattern 2 CX-0055 CX-0084
	Additional¹: Simple Data Exchanger CX-0007
	Additional¹: Data Chain CX-0005 CX-0045
Provider Base	CX-0008 ²

¹ If "Additional" Standards are used or offered in a Solution, the certification of these Stand (1993) required.

²TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP. TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).





Modular System – Core Service Provider

Core Service Provider ²	Identity Wallet: CX-0013	
Provider Base	CX-0008 ¹	

¹TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP. TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).

²Core Services B lists Core Services that can only be operated once in the Catena-X data space due to business reasons or technical limitations and are therefore tendered via the nomination process of the Association.



Modular System – Onboarding Service Provider

Onboarding Service Provider ¹	CX-0006 CX-0009
Provider Base	CX-0008 ²

¹Limitations Jupiter: this role currently only covers part of the registration process in the Catena-X data space. The currently available process is depicted in figure "General Onboarding Process".

²TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP. TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).

Modular System – Sandbox Service Provider



Sandbox Services ¹	Connector: CX-0018 Onboarding: CX-0006 CX-0009 BPDM: CX-0010 CX-0012 CX-0074 Identity Wallet: CX-003 CX-0049 CX-0049 Portal: CX-0001 CX-0001 CX-0001 CX-0001 CX-0001 CX-0001 CX-0001 CX-0001 CX-0005 CX-0149 Portal: CX-0001 CX-0005 CX-0014 CX-0005 CX-0014 CX-0005 CX-0014 CX-0005 CX-0014 CX-0005 CX-0014 CX-0005 CX-0074 Marketplace: CX-0054	
	Golden Record (optional): CX-0076	
Provider Base	CX-0008 ³	

¹ Catena-X Sandboxes contain all services required for the operation of a minimum valuable Catena-X data space, namely: CSP-B services (excluding the cleansing service of BPDM and GXDCH integration) and OSP services.

²TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP. TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).







Value Added	Data Quality Dashboard:	Bank Data Verification:	Natural Person Screening:	BPDM Fraud Prevention	CX-0081	Sanction Watchlist Dashboard:	Company Certificate Management:
Services ¹	CX-0076 CX-0077	CX-0078	CX-0079	CX-0080		CX-0116	CX-0135
Drovidor Paco	CV 00092						

Provider Base CX-0008²

¹ Can only be provided in combination with certified Core Services.

²TISAX Level 2 is mandatory from July 2025, with grace period of 12 month, for all OSP, ESP and BAP. TISAX Level 3 is mandatory for CSP-A/B (as soon as the standard is adapted).



Changelog

- Added for new features.
 - Added Logistics as a new Use Case
 - Added Standards to the Use Case Core Services
 - Added optional Standard to the Use Case Sandbox Services
 - Added PCF-Rulecook to the Use Case PCF
- •Changed for changes in existing functionality.
- •Deprecated for soon-to-be removed features.
- Removed for now removed features.
 - Removed footnote from Industry Core in the Use Cases PCF, DCM and PURIS
- •Fixed for any bug fixes.
- •Security in case of vulnerabilities.

