

How UN/CEFACT Cross-Industry Invoice is implemented in Germany

by Stefan Engel-Flehsig, Lawyer and International Expert on Electronic Invoicing

Providing invoice data digitally has fundamental benefits for both the business sector and public administration: quicker and more efficient work processes, fewer late payments as well as lower printing and postage costs. This in turn reduces errors and improves transparency, while the procedural steps involved in processing invoices are made quicker overall.

Electronic invoices should be just as easy to send and receive as paper invoices. This is not only the major principle of the European VAT legislation with respect to electronic invoicing, it is also the condition for every business and administration to handle electronic invoices as easy as paper invoices. In particular this means that it must be possible to exchange invoices without any prior consultation or agreement between the parties and it means that the invoices must be in a structured data format which can easily be identified and understood.

The potential in terms of the cost savings associated with sending invoices electronically can only be fully realized if the invoicee is also able to process the invoice automatically.

In business relationships involving regular electronic invoicing, ZUGFeRD creates significant savings potential for the receiving partner, especially where automated machine processing and verification is possible.

The use of structured data also enhances accessibility. This can also be supported by the use of PDF/A-3 if the receiving system is not yet able to process the XML data. Launched in June 2014, ZUGFeRD 1.0 combines structures XML data and PDF/A as visualization to a hybrid electronic invoice. The ZUGFeRD model is applicable throughout Europe and beyond, using all of the pertinent standards from UN/CEFACT and from the European Committee for Standardization's (CEN) Message User Guides.

The German version of ZUGFeRD 1.0 has been downloaded by IT and software companies more than 25.000 times. A community of more than 600 companies is implementing services to their customers based on ZUGFeRD and the development of new features around ZUGFeRD is managed by a very active ZUGFeRD Community.

The ZUGFeRD concept is designed in such a way as to keep the number of mandatory data fields requiring population as low as possible, thus eliminating any further

requirements placed on the invoicer as regards data storage. The structured data always must represent a complete invoice, even if not all included information is given in a structured way. The following basic principles apply: The use of structured invoice data by the invoicee is optional; in order for the invoicee to be able to exercise this option, the invoicer must send his invoice data (in accordance with a defined ZUGFeRD-profile) in structured form (insofar as this is permitted by the underlying transaction).

In each case, the structured invoice data and the invoice image must fulfil all of the invoice requirements (e.g. in terms of legislation governing VAT, other statutory provisions, requirements arising from the business process) and include all of the required information, in particular legal information.

ZUGFeRD has been agreed between France and Germany as a joint project, called "Factor-X" and ZUGFeRD/Factor-X are used and published in Switzerland.

"Factor-X" is the Joint Franco-German standard for hybrid e-invoice (PDF for users and XML data for process automation), the first implementation of the European Semantic Standard EN 16931 published by the European Commission on October 16th 2017. Factor-X is the same standard than ZUGFeRD. Factor-X is at the same time a full readable invoice in a PDF A/3 format, containing all information useful for its treatment, especially in case of discrepancy or absence of automatic matching with orders and / or receptions, and a set of invoice data presented in an XML structured file conformant to EN16931 (syntax CII D16B), complete or not, allowing invoice process automation. The first objective of Factor-X is to enable suppliers, invoice issuers, to create value-added e-invoices, containing a maximum of information in structured form, according to their ability to produce them in this form, and to let customers recipients free to use the in-invoice data and / or the readable presentation, depending on their needs and their invoice process maturity on automation.



About ZUGFeRD: Since its launch in 2014 ZUGFeRD is embraced and integrated by a large community of users in all business sectors and public administration addressing the needs of small and medium sized enterprises and public administrations. The ZUGFeRD format guarantees the automated processing of structured invoice contents. ZUGFeRD is based on the regulations of the UN/CEFACT Cross Industry Invoice (CII) standard. See: www.zugferd-community.net

The ZUGFeRD 1.0 format can be downloaded here: <https://www.ferd-net.de/zugferd/specification/zugferd-abruf-1.0-englisch.html> ; ZUGFeRD 2.0, based on the EN 16931, is in preparation

How UNECE's work in Trade Facilitation began

by Lance Thompson, Secretary of UN/CEFACT;

with the kind contributions of Mika Vepsäläinen, Secretary to the UNECE Steering Committee on Trade Capacity and Standards

The United Nations was formed in 1942 as the forerunner of the League of Nations, which was established under the 1919 Treaty of Versailles "to promote international cooperation and to achieve peace and security." The World Trade Organization emerged in 1995 as the continuation of the GATT (General Agreement on Trade and Tariffs) of 1948 which aimed to contribute to peace and stability by creating a multi-lateral, stable trading environment.

What does this have to do with UN/CEFACT? The foundations of the UNECE Working Party 4 (WP.4, the predecessor of UN/CEFACT) has a similar origin.

Let's take a step back in time to post-World War II Europe. Germany needs to reconstruct a large number of building and infrastructure. A lot of its natural resources were marked by years of war, including wood/timber. Germany required a great deal of wood to rebuild after the war and turned to its northern neighbors of Scandinavia to acquire it. Until this point, nothing spectacular.

However, the timber companies of Scandinavia often had multiple clients in Germany, each purchasing their wood. And each one requiring that the Scandinavian suppliers provide an invoice in their (the German buyers') format. This created a great deal of administrative burden for the suppliers as their main job of providing lumber was being overshadowed by an administrative requirement to provide multiple formats of paper invoices to each of their customers...

During the 1960s, there were many meetings leading up to the creation of the Working Party 4. It was basically agreed that an overarching format for trade documents was necessary in order to ease this administrative burden. The years of negotiation lead to what would become the UN Recommendation number 1 on the UN Layout Key. This recommendation, which is still very much used today and which was recently revised, establishes a common layout for all trade documents split into four sections: the upper right with information on

the actors, the upper left with information on the transaction (terms of the transaction, payment information, etc.), a third section in the middle of the document describing the goods and a fourth at the bottom of the document with information specific to that data exchange.

The UN Layout Key has become a reference for almost all documents used in the trading environment today. During the 1970s and 1980s, practically all documentary requirements were aligned to this system. The frames and lines on these documents were very strict in order to facilitate printing, especially sets of documents with carbon copies. Some of our well known predecessors within UN/CEFACT (like Gordon Cragge International Trade Procedures WG chair) would control with a ruler every line of such documents to ensure that they respected the prescribed specifications.



This recommendation, though, was just the beginning. The second UNECE recommendation explained the importance of the semantics and codes that were to be included on these documents. As time went on, it was more and more evident that clear

semantic definitions were needed to explain the content of each box on these documents, leading to the creation of the UN Trade Data Element Directories (UNTDDED).

Progressively, the trading environment evolved towards electronic data exchange, creating new sub committees under WP.4. In the 1980s, UN/EDIFACT remained faithful to the principles of UN Layout Key documents, creating electronic equivalents to these.

All of this started because of invoices, and these remain today one of the key documents in business exchanges. The UN/CEFACT Cross Industry Invoice is a maximum data set covering potentially all sectors of activity; it has been chosen as one of two obligatory standards throughout Europe for Public Procurement.

People-first Public Private Partnerships for the

Sustainable Development Goals by Tony Bonnici, UNECE Economic Cooperation and Partnership Section

Mobilizing new investments in high quality infrastructure projects, especially in low and middle-income countries, is essential for the achievement of the Sustainable Development Goals (SDGs) and the 2030 Agenda for Sustainable Development. Such investments can directly eradicate poverty by achieving access to public services, such as health, education, energy and water and sanitation. A further critical challenge is climate change and the need to promote investments in resilience and to address the enhanced risks to all people, especially the economically and socially disadvantaged.

The SDGs raise a new challenge to Public-Private Partnerships (PPPs), a long-term contract between a governmental body and a private entity with the goal of providing a public benefit, either an

asset or a service.), which have traditionally been designed as a ‘value for money’ tool with very little regard to eradicating poverty and serving the poor. Overall, it can be said that not all PPPs are ‘fit for purpose’ for the SDGs, nor is there a guarantee that the traditional PPP model will lead to the successful achievement of the SDGs. There has yet to be a model that is on the one hand transformative and on the other hand responds to the challenges of low and middle-income countries where arguably PPP is needed the most.

The UNECE has been working in the area of PPPs since 1998, and remains the only UN body that has an intergovernmental body solely dedicated to PPPs – the Working Party on PPPs – open to all UN Member States. Over the years, the UNECE has built the PPP capacity of a number of countries and has helped them to mobilize private sector finance and expertise to improve their infrastructure and the delivery of key public services. With the adoption of the 2030 Agenda, the UNECE has advocated the need to adapt the traditional PPP model to the SDGs by placing people at the core. While the value for money concept remains important, the challenge is to implement PPPs according to a broader set of holistic criteria and undertake projects that from inception to termination create

‘value for people’. ‘People-first’ PPP projects should: increase access to essential services, especially to vulnerable groups; have particularly strong economic effectiveness and transformational impact; be replicable; cut or significantly reduce Co2 emissions; make infrastructure more resilient; and engage effectively with all stakeholders. A set of guiding principles on ‘people-first’ PPPs are being elaborated by UNECE in consultation with the wider UN family, governments, the private sector and civil society organisations.

Since 2016, the UNECE has been developing

PPP standards to assist the engagement of public authorities with the private sector. These

voluntary standards are organised by sectors and provide SDG driven project

models. They also identify proven risk allocation and financing techniques, which provide good governance approaches and policy recommendations. The focus of these standards is on improving partnering capacity and are designed to accelerate projects and investment and reduce transaction costs. Standards are currently being developed in a number of sectors, such as water and sanitation, health policy, renewable energy, urban rail, roads and airports. The first standard launched by ECE is on a zero-tolerance approach to corruption in PPP procurement.

UN /CEFACT has been a leader in developing standards and recommendations, and our PPP work has benefited immensely from the wealth of experience fine-tuned by UN CEFACT over the years. The governance on the development of PPP standards has been moulded around the UN/CEFACT Open Development Process model, and this has facilitated immensely the standard development process and its oversight by the intergovernmental bodies overseeing the UNECE PPP work.



Where are they now? Gordon Cragge

Gordon Cragge was with UN/CEFACT and its predecessor since the 1990s. He was the chair of the International Trade Procedures Working Group, then chair of the TBG15 of the same name from 2000, then Domain Coordinator of the International Trade Procedures Domain until 2015. He was leader or lead editor of almost all UNECE Recommendations from the 1990s to 2017. Retired in 2017, we contacted him and asked to say a little of what he has been doing since.



“Where am I now? Living the well-earned life of retirement and relaxation on the Paradise Island of Langkawi, Malaysia. As the Chinese say, ‘may you be blessed with living in interesting times’. Although in Paradise I follow with interest the work on Trade Facilitation in UN CEFACT (thank you Eva, Jari and Lance).

“I wish all the experts well on progressing the work programme and projects to facilitate trade in an increasingly fraught and difficult trading and commercial environment. All the more reason for CEFACT Experts to develop better practices and procedures to give businesses of all sizes the tools and techniques to trade globally more efficiently and effectively.”

Upcoming events

For more information on any of these events, please contact the UNECE Secretary: lance.thompson@un.org

Hangzhou Forum of UN/CEFACT working groups (there will be eight side conference, check the website)

- 14-19 October, Hangzhou, China

UNECE Single Window Conference (jointly organized with IPCSA and Portnet)

- 12-13 November, Casablanca, Morocco

Team of Specialist on Sustainable Fisheries

- 22 November, Geneva, Switzerland

UN/CEFACT 33rd Forum

- 1-5 April 2019, Geneva, Switzerland

UN/CEFACT 25th Plenary

- 8-9 April 2019, Geneva, Switzerland

Word from the Chair Sue Probert

There are some very exciting projects being developed within UN/CEFACT at this time and we see growing enthusiasm for our work programme.

Over the next months, UN/CEFACT standards will be referenced by IMO as an official means of exchanging IMO FAL information. Our Blockchain project is well underway to be finalized before the next Plenary and the Single Window and UNLOCODE Recommendation revision projects are attracting many experts as are the Smart Container and Data Pipeline projects in the Transport & Logistics domain area.



I appreciate very much the confidence in me indicated by our Plenary when elected as Chair for the next three year period and I hope to be able to promote and progress our trade facilitation and electronic business work activities with the help of our highly valued experts, who are the heart of UN/CEFACT.

New UNECE Director Ivonne Higuero

I was appointed as director of the Economic Cooperation and Trade Division since March 2018 (the host division of the UN/CEFACT secretariat) and since then, Maria Ceccarelli and her team have fully involved me in the work and projects in which you are all involved and diligently working on the deliverables. I am no stranger to this very successful area of activity as I have been working as a member of the UNECE secretariat for several years. It has been my pleasure to give opening remarks at several of your meetings and am impressed by the passion and seriousness that all UN/CEFACT experts demonstrate.

I look forward to working with UN/CEFACT for many years to come and will wholeheartedly contribute from my side to our collective success.

