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**UN/CEFACT Draft Standard
Boostaero Business Requirement Specification**

This document is submitted by the UN/CEFACT Forum Management,
through the Bureau, for APPROVAL by the UN/CEFACT Plenary

Summary

Business Domain: **Airspace & Defence Industry**
Business Process: **e-Supply Chain**
Title: **e-Supply Chain Business Process Modelling**
Version: 1.13 **Release: R.05A**
Date of TBG approval: **2005-03-14**

Owing to its large size, the full text of this specification cannot be issued as a UN/CEFACT Plenary document. However, it can be downloaded for review by delegations from the UN/CEFACT website at www.unece.org/cefact under "Technical Specifications" in the left column menu.

Executive Summary

1. The current practice of the exchange of business documents by means of telecommunications – usually defined as e-business - is a major opportunity for improving the competitiveness of the air and space industry.
2. Legacy e-business (EDI) solutions using dedicated lines for peer to peer exchanges or via Value Added Networks (VANs), using first generation standard documents (TDCC, VICS, X12 or EDIFACT) required costly investments and could be afforded only by big or medium size players. The return on investment was only guaranteed for simple exchanges of high volume transactions.
3. This explains why those legacy systems have achieved a certain scale of implementation in some specific sectors such as consumer goods industries or the automotive industry but have been more or less limited to the main manufacturers and their tier one suppliers. The deployments did not always meet the expected scope and have often faced difficulties. Because of these difficulties, the number of partners was finally not as large as expected. SME's didn't jump into the wagon, and critical mass wasn't reached.
4. Introducing richer business processes, involving new documents could not be done at a marginal cost. Orders and deliveries were often processed by circumscribing the limits of the e-Business solutions.
5. The air and space industry in Europe has experienced a useful, although limited, development of e-business based on a customisation of the UN/EDIFACT standard subset known as Greenloop, whilst the US industry has seen a two-fold development. The Aerospace Industries Association of America (AIA) created a set of e-Business transactions based upon X12 while a group of users decided to move to an XML syntax, using an XML based Common Business Language (xCBL) set of Document Type Definitions (DTDs), further modified as plain XML schemas, and to use the services of an e-business solution provider: Exostar.
6. Internet and Web based technologies bring new opportunities to implement more flexible solutions, affordable by SMEs. These new technologies, far less costly, are not limited to traditional EDI that is dedicated to the e-supply chain. They also cover complementary services: e-collaboration, e-sourcing, and e-forms, either completed manually on the Web or down and up loadable. Security issues can also be more adequately addressed.
7. The main air and space industries have decided to establish portals using Internet and Web facilities. Both European and American companies have decided to discard the legacy standards - EDIFACT or X12 - but keeping in mind the value of their previous investments. However, the new e-business programmes developed in the United States and the European Union have been designed separately, and – despite their important commonalities and identical basic assumptions - business processes and semantics are not aligned.

8. In Europe, the new ways of doing e-business have been decided without global coordination, whilst the US companies have taken another approach using a common hub, Exostar.
9. However, the adoption by the Exostar community of the newly defined XML based Common Business Language or xCBL, has not been done after a complete formalisation of the business processes. Rather, a pragmatic approach has been chosen which started from AIA legacy X12 documents to recast them in XML according to the xCBL way of doing this.
10. The result of these independent programs – Europe – and of the pragmatic approach – US/Exostar did not permit the creation of a complete and harmonised world standard. Business processes, semantics and technical architectures are not aligned which creates problems for the suppliers of the air and space industry.
11. Heterogeneous solutions are an obstacle to the simple and complete integration of the main contractors' supply chains down through the tier "n" suppliers passing through tier 2, 3 etc. Yet, the aggregation of a large number of e-trading partners using a complete set of e-business documents, in other words the reaching of a critical mass, is a major factor in return on investments (ROI).
12. In this situation, specific solutions are created, each of which satisfies the need of a single trading partner – who unilaterally imposes it to his suppliers – or, in the best situation, on a limited number of trading partners. This results in costly solutions, limiting deployment amongst the suppliers, each of which has to cope with too many developments, and this consequently jeopardizes the ROI of the portals, creating a significant risk of failure.
13. The purpose of this document is to define a set of globally consistent procurement processes for the air industry supply chain using the *UN/CEFACT Modelling Methodology* (UMM) approach and the *Unified Modelling Language* (UML) to describe and detail business processes in the air industry supply chain.
14. The structure of this document is based on the structure of the UN/CEFACT Business Requirements Specification (BRS) document.
15. The scope is limited to the sole relations between Vendors and Acquirers and will not concern – at least for the moment – third parties that are candidates to become operators in the supply chain's management (carriers, logisticians, freight forwarders).
16. The document deals with purchases of aeronautic parts, services, manufacturing (machining, tooling, designing) but doesn't address issues concerning CAD-CAM data exchange.
17. These processes detail information exchanges between "actors" playing "roles", both concepts being explained in this document. The different ways in which the same process can be implemented are defined in scenarios, the whole being conformant to the ISO conceptual model for Open EDI (see ISO/IEC IS 14662).

18. These scenarios are described in as many details as possible, which means that:

- Actors are clearly identified;
- Roles are precisely distributed;
- Dialogues are explicitly defined;
- Business components and their attributes are precisely and concisely defined by reference to the standardised way of describing data (see metadata as per ISO 11179, currently used by the e-business community).
- The whole standard will be published and maintained in a Registry/Repository conformant to ISO Recommendations 15 000 - 3 and 4

19. In terms of processes, this document will limit itself to the sole “*Use Case Diagrams*” and “*Sequence Diagrams*” as defined by the Unified Modelling Language - UML - of the Object Management Group.

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¹ The full text of the specification can be downloaded from the UN/CEFACT website at www.unece.org/cefact

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