

## UNCTAD Trust Fund for Trade Facilitation Negotiations Technical Note No. 21

---

# ASYCUDA

---

### Background

UNCTAD's Automated System for Customs Data (ASYCUDA) is an automated Customs data management system that can handle all Customs clearance-related processes. This is done by implementing simplified and harmonized procedures and standardized trade documents. The system allows for the electronic processing of declarations, risk management, transit operations and expedited clearance of goods, in addition to collecting timely and accurate statistical data for fiscal and trade policy objectives.

UNCTAD developed and implemented the first version of ASYCUDA in three West African countries between 1981 and 1984 to compile foreign trade statistics. Since then, it has gone through three major upgrades, taking advantage of innovation in computer hardware, programming language and software technology, in order to meet the challenges of the growing volume and complexity of international trade.

The second version (1985–1995) introduced Local Area Network and provided a more powerful data transaction capacity through the use of file servers. It implemented the fully automated processing of Customs clearance including declaration, manifest, cash and accounting, and warehousing. The third version (ASYCUDA++, 1992 to present) added Customs modules and functionalities, such as direct trader input, risk management, transit monitoring, and submissions of declarations by Customs brokers via the Internet.

The latest edition is ASYCUDAWorld, a truly e-Customs version, introduced in March 2002 and compatible with major database management and operating systems (Oracle, DB2, Sybase MS/Windows and Linux, HP-UX, respectively). The use of extensible mark-up language (XML) permits, at the national level, the exchange of any documents between the national Customs administration and traders, and, at the international level, between different Customs administrations via the Internet. As it uses modern telecommunications systems and devices and installations like VSAT, independent high-speed Internet connections between Customs Headquarters and border posts can be guaranteed.

The modularity of ASYCUDA means that new or advanced programmes (modules) can be added on at any time to suit the needs of a given country. Such add-on modules can cover Customs functions such as risk management, transit operations or new security standards, depending on national priorities.

The technical advantages of ASYCUDA lie in its:

- Modularity – which allows implementation on a broad range of software and hardware platforms from mainframe to PCs;
- Multi-language/alphabet enabling translation into numerous languages;
- Built-in security features, such as user authentication and asymmetric encryption;

- Updates of reference data without programming; and
- High-level Communication features including the Internet and Intranet, as well as independent telecoms infrastructure.

To date, ASYCUDA represents UNCTAD's largest technical cooperation and capacity-building programme worldwide. It is implemented in more than 90 countries. More than 15 million Customs declarations are processed annually with ASYCUDA for both exports and imports.

Recent information on installations of ASYCUDAWorld may be found on the ASYCUDA website [www.asycuda.org](http://www.asycuda.org). In addition, it is worth noting an initiative to develop a Regional Transit management system which is underway in the CEMAC<sup>1</sup> countries and the migration to ASYCUDAWorld that has been undertaken in Belize, Dominica, and Trinidad and Tobago, where the Manifest module is operational.

## **ASYCUDA objectives and functions**

### *Key objectives*

The programme has the following objectives:

- To facilitate trade through the normalization of forms and documents, data standardization, simplification and computerization of Customs clearance procedures to accelerate the clearance of goods;
- To strengthen Customs operational efficiency for control by providing modern tools and techniques, implementing sound procedures and providing full audit trails and mechanisms for controlling Customs operations; and
- To strengthen Customs management and control by providing Governments with accurate and timely statistics on foreign trade and revenue for trade policy and decision making purposes.

Often accompanied by a trade facilitation component, the project's objectives may include the following main functions:

- Strengthening of the institutional capacity of the Customs service, including border points;
- Cooperation among cross-border control agencies and between Customs and traders;
- Automation of all Customs procedures and regimes (cargo control, clearance processes, transit monitoring), with robust inbuilt Customs control capabilities through manifest, full declaration processing, risk assessment and selectivity, accounting, and the automated calculation of duties and taxes;
- Streamlining and simplification of Customs procedures and documentation;
- Alignment of national trade documents with international standards for forms (United Nations Layout Key (UNLK), Single Administrative Document (SAD)), documentation and data elements as contained in international conventions and recommendations, e.g. the World Customs Organization (WCO Data Model), UNECE and UN/CEFACT, UN/EDIFACT;

---

<sup>1</sup> Communauté Economique et Monétaire de l'Afrique Centrale. Member countries: Cameroon, Central African Republic, Chad, Congo, Gabon and Equatorial Guinea.

- Use of the Harmonized Commodity Description and Coding System (HS) and the development of integrated Customs tariffs with corresponding national laws and regulations;
- Electronic lodging of Customs declarations by traders and declarants using electronic data interchange (EDI) and allowing for direct trader input (DTI);
- Automatic processing of Customs declarations and information sharing with all participants in the clearance process;
- Benchmarking costs and transport times;
- Collection and storage of trade and Customs statistics for fiscal and policy purposes;
- Assessment of the trade and transport regulatory environment; and
- Transparency of Customs operations and reduced opportunity for fraud.

#### *ASYCUDA and risk management*

With the growing volume of transactions in international trade, the systematic and in-depth physical examination of all cargo is fast receding into Customs history. Computerized risk-management systems determine the routing of transactions for Customs control according to criteria established by Customs officers specialized in enforcement and intelligence gathering. Using modern and computerized procedures that track and target high-risk consignments and reduce the number of physical inspections is also the most efficient balance between expedited Customs clearance and supply chain security.

ASYCUDA's risk management system capitalizes on over 25 years of experience in the computerization and implementation of Customs operations worldwide. ASYCUDA covers the whole declaration-processing path, including cargo and transit. It uses sophisticated tools, from the classic selection of the examination procedure and the allocation of the declared goods to a control "channel" – green, for the release of goods without examination; yellow, for documentary checks prior to goods release; red, for physical examination of the goods prior to release; or blue, indicating that goods will be released but will be subjected to a post-clearance audit control by Customs – to the use of multimedia, scanned images and wireless devices. State-of-the-art technological tools provide Customs officials with immediate remote access to intelligence and control databases.

Customs controls can now be undertaken in situations where this was not possible before – for example, to stop cargo in transit and verify that the paper documents presented correspond to what has been declared at departure, or to perform on-the-spot checks of a container's content and the status of the goods (cleared, in transit, etc.). The ASYCUDA system permits the periodic assessment of risk-management processes in order to measure the effectiveness of selection criteria and to change, extend or eliminate risk-management parameters as needed.

#### *ASYCUDA and customs transit*

The transit module of ASYCUDA includes forgery-proof electronic documents, electronic signature, and registration of all transactions. No data re-entry is required by carriers or at border crossings. The system can process transit documents such as the TIR Carnet. It allows for the full integration of transit procedures into the Customs

clearance process with transit documents being generated from waybills and export declarations.

## **Implementation issues**

### *Customs reform*

The programme is developed by UNCTAD Customs and IT experts in close collaboration with national Customs authorities and government agency officials. The implementation of ASYCUDA is sometimes embedded in larger development and capacity-building projects of the World Bank, regional development banks or bilateral donor projects. It may target, for instance, the building or renovation of Customs facilities and telecoms equipment in line with UNCTAD specifications for the efficient installation and functioning of ASYCUDA. In some cases, ASYCUDA is implemented entirely by national authorities and experts in line with UNCTAD guidelines – but without its support during the rollout of the programme. However, the extensive training component is normally supervised by UNCTAD experts.

### *Project preparation*

The introduction of a Customs modernization and automation programme should be backed by:

- High-level political support;
- An overall reform of Customs possibly including related government agencies and private sector operators; and
- Legislative and regulatory reform.

Political support is crucial for embarking on Customs reform and a key factor in determining the pace and success of its implementation. Individual Customs officials may oppose the introduction of automation because they fear for their jobs, their privileged positions and reduced opportunities for discretionary intervention, and thus undermine the functioning of the programme. Therefore, the preparatory phase includes awareness-raising seminars and functional and technical training of the national team with a view to making them partners in the process of Customs automation. The ASYCUDA programme is planned in consultation with the Customs authority and related government agencies taking into consideration the particular trader and transport operator environment.

Functional and technical preparations include the elaboration of user requirements; an assessment of the legislative and regulatory framework; an inventory and redefinition of the declaration processing path and its codifications for computerization; and the preparation of technical specifications for hardware, software as well as physical and energy infrastructure requirements for implementation.

### *Pilot phase and rollout*

The ASYCUDA programme is usually organized in two phases: a pilot phase of minimum one year and a half and the completion phase of about two years.

Phase one includes:

- Awareness-raising seminars and ASYCUDA training programmes for the national team;

- Regulatory, procedural and operational assessments as well as technical and functional analyses;
- Building of the prototype of the programme and configuration for national requirements, such as the integrated Customs tariff based on the Harmonized System, related legal requirements and regulations, and duty and tax rules;
- Implementation of relevant standards and recommendations such as those from ISO, UN, WCO (Data Model) and WTO (Customs valuation);
- Preparation of Customs user training modules and training of traders and operators in system and user documentation;
- Implementation of the pilot site with the installation of equipment and new operational procedures; and
- Testing of the ASYCUDA pilot system.

Phase two of the project includes the rollout of the system to all Customs offices throughout the country, including installation of LANs, computer hardware, and training of local users. During that phase, ancillary trade facilitation components are implemented, such as:

- improving transport arrangements;
- modernising documentation practices;
- strengthening the role of private sector users (trucking associations, freight forwarders, banking and insurance);
- identifying necessary changes to the legal basis underlying trucking regulations, professional associations, cargo and liability, new Customs procedures and documentation; and
- establishing data bases and benchmarking for transport and transit movements, revenue collection, and other trade-related policy objectives.

#### *ASYCUDA and regional support*

ASYCUDA maintains permanent regional support centres in:

- Kuala Lumpur, Malaysia, for Southeast Asia (ASEAN);
- Suva, Fiji, for the Pacific Island states (a sub-regional centre);
- Bangui, Central African Republic, for Central and West Africa (ASYCUDA is known in French as SYDONIA);
- Dar es Salaam, United Republic of Tanzania, for East Africa;
- Lusaka, Zambia, for Eastern and Southern Africa (COMESA); and
- Caracas, Venezuela, for Latin America and the Caribbean (ASYCUDA is known in Spanish as SIDUNEA).

These centres are either financed by contributions from member states themselves or from donor governments and institutions.

#### *Costs*

From the start ASYCUDA is a government-owned and operated Customs management system. The implementation of ASYCUDA or migration to its latest version is most often financed by the country itself, sometimes with the assistance of international

grants or loans, as part of a development project. UNCTAD provides the ASYCUDA software and additional modules for use by national Customs administrations plus the technical and functional documentation and training material.

UNCTAD technical assistance guides the national experts through all phases of:

- IT system configuration in line with the national Customs Code, Customs tariff, implementing regulations and new procedural requirements from a standardized declaration-processing path to accounting, payment and clearance;
- training of national Customs experts, consultants and related personnel (train the trainer technique) ; and
- implementation of the pilot system and national rollout.

Special technical support beyond the duration of the project for troubleshooting and upgrades of software application is also provided by UNCTAD.

The costs of implementing the ASYCUDA system vary according to the size and complexity of the country (number and accessibility of border posts and Customs houses); the volume of foreign trade; the condition of its physical infrastructure; the skill level of Customs and government staff; and whether it is a transit, landlocked or island country.

## References and tools available

### *The Global Facilitation Partnership for Transportation and Trade (GFP)*

The Global Facilitation Partnership for Transportation and Trade (GFP) brings together the world's leading organizations and practitioners in trade and transport facilitation. It creates an open information and exchange platform on major new developments and all aspects of trade and transport facilitation. See [www.gfptt.org](http://www.gfptt.org).

### *UNCTAD*

Various reports are available via <http://r0.unctad.org/ttl>. See in particular the document "ICT Solutions to Facilitate Trade at Border Crossings and in Ports", 2006, (TD/B/COM.3/EM.27/2). See also the ASYCUDA website [www.asycuda.org](http://www.asycuda.org). In order to subscribe to UNCTAD's Transport Newsletter please visit <http://extranet.unctad.org/TransportNews>.

### *Further UNCTAD Technical Notes*

Further Technical Notes are available via <http://www.unctad.org/technicalnotes>. See in particular:

- Technical Note No. 3 (Use of Customs automation systems)

---

The *Technical Notes* have been produced by technical experts contracted by UNCTAD within the Trust Fund project "Capacity building in developing countries and least developed countries to support their effective participation in the WTO Negotiations Process on trade facilitation", financed by the Governments of Sweden and Spain. Their purpose is to assist Geneva- and capital-based negotiators to better understand the scope and implications of the various trade facilitation measures being proposed in the context of multilateral negotiations on trade facilitation. The opinions expressed in the Technical Notes may not necessarily coincide with those of the organization or the donors of the Trust Fund. For comments and enquiries please contact [trade.logistics@unctad.org](mailto:trade.logistics@unctad.org). All Technical Notes are available via <http://www.unctad.org/technicalnotes>.

---