

Revitalizing the Harmonized System

What is needed for a
21st Century Harmonized System?

WCO Conference on
the future direction of the HS

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WORLD CUSTOMS ORGANIZATION
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The purpose of this document

The WCO Policy Commission, at its 80th Session in December 2018, endorsed the proposal for a “WCO Conference on the future direction of the Harmonized System”. As a result the “Revitalizing the Harmonized System” was organised.

At the same time, the Policy Commission tasked the Secretariat with developing a guidance paper for the Conference to assist the delegates by providing the background and some of the thinking to date.

The Secretariat welcomes input by Members and other interested parties prior to the Conference. Please contact hsreview@wcoomd.org if you wish to comment on this document.

Section I: Why this Conference – In Brief

The Harmonized Commodity Description and Coding System (HS)

The *Harmonized Commodity Description and Coding System*, or the Harmonized System (HS), is the trade nomenclature for Customs use.

The HS:

- Classifies all goods
- Uses a set of rules for classification that is identical around the world
- Is relatively stable over time, so provides a relatively consistent base for policy, planning, statistics, procedures and controls, as well as time series data sets over decades for many goods
- Is integrated into many trade systems, software and practices

Why are we looking at a strategic review of the HS?

Despite its many strengths, concerns have been expressed which suggest that the HS may have significant problems. Some are integral to the system itself and others have arisen as the world and trade have changed since its inception.

The HS:

- Is not always simple and, for many users, goods classification is very difficult
- There is scope for subjectivity and ambiguity in the rules, structure and language which can reduce uniformity and increase disputes
- Adapts slowly to new goods, forcing important new products and industries to invisibility in residual or inappropriate classifications
- Is very difficult to adapt for many of the new policy needs and current trade practices

What is this Conference for?

The HS is a multiuser and multiuse nomenclature. While it is owned by Customs administrations through the WCO, it affects not only Customs administrations themselves, but traders, policy makers, statisticians and consumers around the world.

Before Customs makes any commitments to reviewing or changing the HS, there are diverse groups who need to be consulted. This Conference is a chance for many voices to join in the debate. What we are asking is both simple and profound.

- What should the HS deliver?
- Is it achieving this?
- Do we need to a strategic review?
- If so, what sort of processes and goals should this change embody?

What is the scope of the Conference?

✗ *International Convention on the Harmonized Commodity Description and Coding System*

The Convention (the Body) itself is **not** subject to review.

✓ The HS, i.e., the Annex to the Convention, so the 6-digit codes (including its rules, structure, language and content) and other directly related matters such as the Explanatory Notes and associated tools are open for discussion.

Section II: About the Conference

Scope Guidance

The HS Conference will look at the HS with a view to determining if it is still accomplishing that for which it was drafted to do. However, as with any project of work, there are set parameters.

Out of scope

The HS Convention

The HS Convention is composed of The Body and the Annex (The Harmonized System itself is the Annex to the Convention. The Annex was intended to be a living document that was to be reviewed and changed as required.)

The Body of the Convention is outside of the scope of this Conference. We will not open the Convention for discussion.

Coverage and intent

The Convention preamble clearly defines the intent of the HS to: facilitate international trade; facilitate the collection, comparison and analysis of statistics, in particular those on international trade; and to reduce the expense incurred by re-describing, reclassifying and recoding goods as they move from one classification system to another in the course of international trade and to facilitate the standardization of trade documentation and the transmission of data. As part of the Convention, the underlying principals expressed in the preamble are also out of scope (see Annex II).

The Harmonized System Committee (HSC)

The HSC is also set up under the Convention and is out of scope.

Within scope

This still leaves a wide scope for the Conference.

The HS including the General Rules of Interpretation (GIRs)

The principal scope of the Conference is the HS itself. This encompasses any aspect, including structure (i.e., the headings and subheadings), rules, content and organisation.

The Explanatory Notes (ENs), Alphabetical Index and Compendium of Classification Opinions

With the ENs, we particularly ask about their general usability and whether they are always clear or if there are problems with ambiguity, potential contradictions with the legal text or other problems.

Any other related matters, including potential new tools or publications

The Conference is an open platform with the intent to give space for new ideas.

While there are time constraints imposed by the two-day schedule and the need to give all attendees the chance to participate, all ideas are welcomed.

What is expected at this Conference?

Before the WCO Members make a decision on the future of the Strategic Review, it is important to give some *initial* answers to some fundamental questions.

These questions cover a number of areas.

Defining the problems – existence, scope and impact

What do users see as issues?

- Subjectivity?
- Granularity - too much, too little or not variable enough?
- Speed of change?
- Other issues?

Are issues with the HS impacting significantly on users?

Are the issues impacting significantly on the ability of the HS to deliver what is expected of it in terms of harmonising classification globally and providing global trade data?

Defining what a modern, well-functioning nomenclature would look like

What do users want from the HS?

What would the HS need to look like to deliver this?

Estimating the gap

How far is the existing HS from the vision of a modern HS?

What are the major elements creating this gap?

Reality checking the impacts

What would be the risks and impacts of undertaking a major change?

Can we mitigate the risks and manage the disruptive impacts?

Assessing the benefits

What are the most important benefits that users would expect to gain?

Looking at the types of benefits (simplified classification, easier compliance, more trade data/information, reduced training costs, less financial risk from audit, etc.), how would the benefits impact different user groups?

Way forward

In terms of relative impacts and benefits, is this a worthwhile project?

Are there strategies to minimise risks and impacts without an excessive reduction in benefits?

What are the recommendations to the WCO Policy Commission?

Section III: A deeper discussion

The background presented to the WCO Policy Commission

2018 marked the 30th Anniversary of the *Harmonized Commodity Description and Coding System*, fondly known as the Harmonized System (HS). With 157 Contracting Parties and 211 economies applying the HS, it is one of the most successful and unifying instruments of the WCO and a major factor in global trade.

The Anniversary was an appropriate time to review the achievements of the past 30 years and reflect on the challenges ahead.

The HS works. As we have seen, it is used in more than 200 economies and has provided a level of knowledge of trade that has enabled good outcomes for Customs administrations and sophisticated trade analysis. As such, the HS is truly invaluable. The continued success of the HS owes much to the work that went into the original design and the dedicated ongoing work of the Harmonized System Committee (HSC) and its Review Sub-Committee (RSC). There have been seven editions implemented and the HSC and RSC are finalising five years of work to present the eighth edition to the WCO Council in June 2019 for approval.

Despite this work, concerns have been expressed about the difficulties of classification in the HS Nomenclature and about its ability to keep pace with changing times. The need for amendments has continued to rise.

Taking the May 2008 and June 2018 RSCs as comparison points (same stage in their respective review cycles), change proposals rose 244 % and showed a substantial increase in their complexity. The figures also showed increases in the volume and complexity of classification disagreements. At the March 2008 HSC, only 7 decisions required a vote on classification issues (those not resolved by consensus). By the March 2018 HSC, 26 decisions requiring a vote were cast on classification. In addition, 12 of these had a third or more of the HSC members dissenting. This is indicative of the lack of clarity of either the provisions or how the General Rules apply. Furthermore, adverse feedback on compliance issues, the low availability of technical expertise and the cost of developing such expertise, and the lack of sufficient granularity or clarity in provisions has also been heard.

As the guardian of the HS, it is the role of the WCO to take the lead in initiating a conceptual debate to ensure that this flagship instrument keeps pace with the changing dynamics and patterns in trade in a sustainable manner. In accordance with this, the WCO placed a number of concerns before the Policy Commission.

To assist delegates to the Conference understand what has led to this event, below are relevant extracts from the Policy Commission document.

Complexity

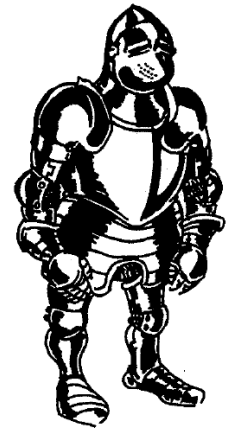
The HS is inherently complicated. With millions of different products traded, ensuring that every one of them can be classified within a single book is a complex problem. As goods evolve to higher levels of integration and new technological platforms, it becomes increasingly difficult to maintain the HS. When your smartwatch starts talking to the body monitors built into your running clothes to release perfumes from the nanofibers, then the pressure intensifies on the HS to classify new categories of goods never envisaged when it was designed. This brings in subjectivity in classification which is a separate topic below. In addition, the development of global value chains and distributed manufacturing has multiplied trade in parts, semi-finished goods and intermediate goods, the latter not being provided for in the current HS. The provisions for the classification of parts are some of the most complex in the HS.

Overall, changes in trade mean HS classification is increasing in complexity. Classification in certain sectors, such as textiles, machinery, chemicals and pharmaceuticals, is particularly difficult. Those areas have been the subject of amendments over past HS Review Cycles but the underlying issues have not been resolved.

User-friendliness

It is important to ensure that classification is rendered clear and easy for the majority of stakeholders not just for a few. Currently, classification is easy for a few and difficult for many. This trend will only increase with the expansion in users, especially with the rise of Small and Medium Enterprises (SMEs) in global trade, e-commerce and globalization of trade which has also expanded the range of people and organizations who need to classify goods. It is no longer just trade professionals who deal with the HS.

More business people and consumers are faced with classifying goods. Even the language of the HS can be daunting: everyday items like computers and rechargeable batteries are referred to in unfamiliar terms (automatic data processing machines and accumulators, respectively), while seemingly familiar terms such as “suits” and “ensembles” have strict legal definitions in the Notes (without any indication in the heading texts that they have a definition elsewhere, e.g., legal Notes)¹. Few find the HS simple. For new, inexperienced or occasional users, the HS has room for improvement in its user-friendliness. How do we make the HS clear and easy for the majority? Achieving this would involve looking at how goods are described and classified in the HS, including the terminology used and the methods of classification.



RARE EXAMPLE OF CLOTHING
MEETING CONDITIONS FOR
ENSEMBLE.
ALSO RECOMMENDED WEAR
WHEN DISCUSSING THE SUBJECT

Subjectivity

In addition to complexity, there is the issue of subjectivity. With more integrated or multi-function products, there is increased use of classification according to the component or material that gives the “essential character” of the product (General Interpretative Rule 3 (b)). Reliance on such a philosophical and subjective point has led to many arguments including, most expensively, in the court rooms. Recent examples of classifications according to essential character being open to subjective interpretation dealt with whether the essential character of a prepared meal of chicken and rice was deemed to be the chicken or the rice. This was a subjective call and the results of the votes over a number of meetings seem to vary between different parts of the world. Another was emergency kits for motor vehicles. Was it a set? If so, which tool or item provided the essential character to the kit?

Ambiguity

The ambiguity implicit in many of the rules and provisions also means outcomes in legal action on classification are difficult to predict, even without considering if fraudulent intent needs to be proven. For example, the HSC recently looked at certain types of petroleum fuels with two potential headings. This question dealt with whether a legal Note applied to the products. It concerned the weight of the aromatic constituents and whether they exceeded that of the non-aromatic constituents. On the face of it, the legal Note looked relatively simple to apply. But when the issue was examined by senior Courts in both the United States and the European Union, the Courts came to different conclusions on the meaning of the same Note and provisions. This is an example of how a lack of clarity and ambiguity can be found in the provisions when examined by non-Customs bodies. This can be exploited where countries use identification by classification within other legal measures, such as Free Trade Agreements, anti-dumping provisions, quotas, import/export restrictions, etc.

Compliance cost

This complexity, combined with the expansion in user numbers and types, increases compliance costs and difficulties for administrations. At a time when the long-standing trend of duty rates decreasing has been dramatically reversed in some parts of the world, there is increased motivation and opportunities for both tariff engineering to avoid duties and outright tariff fraud. The subjectivity and complexity in the system makes it more difficult for Customs to detect fraudulent intent and to prove it in courts. It also adds to litigation costs for all parties. The results of a number of audits in two advanced economies which have looked closely at the error rates for declarations submitted to Customs, are disturbing. These audit reports have shown that the classification error rates were 30% and 53%, respectively, and higher in more problematic Chapters, with

¹ Cartoon taken from the 1989 collection created by Mr. Jan Willem Reintjes

one of the audit reports showing between 50 % and 90 % for certain Chapters: machinery, computers and electronics, textiles and chemicals.

Aging provisions

The Harmonized System Explanatory Notes (EN) are the official “notes” to help interpret the HS provisions. In terms of age, it should be explained that the HS is an expansion of the previous Brussels Nomenclature (BN): it was enlarged from four-to six-digits, but kept largely intact in content and renamed as the HS. The ENs also migrated from the corresponding BN EN, so parts of the EN are now 64 years old. Over the years, various provisions have been updated, revised and expanded, and now it has almost 2,900 pages, in five volumes, and is sold with a subscription for the regular changes and additions.

This convergence of rising complexity, the changing skill and experience profile of users, increasing motivation for misuse (tariff engineering), litigation results, and aging provisions, creates pressure on the system, leading to negative impacts on revenue, administration costs, controls, the accuracy of trade statistics, and the successful implementation of government policies.

Annex I to this Paper provides a more in-depth examinations of these issues. In the Secretariat’s view, it is time to ask the basic question of “How can we make the HS simple for the majority of users?”

Should we attempt a strategic review?

This list of issues is far from comprehensive. Any system that seeks to have an all-encompassing scope of a changeable and major human activity like trade is going to develop a similar scale of issues over time. The question now is “have they reached the tipping point where we need to undertake a system-wide update”?

As always, there are both opportunities and costs in undertaking major changes.

Looking at the arguments for status quo, it is true that simply because it has flaws does not automatically mean that it is necessary, or even desirable, to undertake major changes. The HS is deeply embedded into systems and procedures globally. The work in changing laws, software, documentation, databases, and training would be immense and disruptive.

It is also important to remember that while a revised system may be an improvement, no system is perfect and it would not suit everyone or solve all problems. This is also a factor in whether it would pass the final hurdle of acceptance by Members. What if we do all of this work and cannot get consensus to update? For this aspect, it is important to remember that the HS is a living document and was never intended to be, nor is it, a static, historical document. So while ideally the results of a strategic review would be implemented holistically, many of the outcomes could be implemented as part of the on-going review cycles.

The question of whether the gains would be sufficient for the global community to accept the cost and disruption is not an easy one. Despite all of this, the arguments for undertaking a more comprehensive review are highly persuasive. The HS has existed for 30 years, during which on-going improvements and updates in legal provisions and Explanatory Notes have been made, and yet it is still a source of contention for traders, administrations, courts and countries. A deep and innovative revision that succeeded in making a generational change to the HS would be one of the most important global reforms to trade in decades. As it affects the everyday reality for traders and Customs administrations globally, an improved HS would have a major impact on their operations. It would also give us increased tools to deal with the increasing complexity of the trade world and its issues.

Why has this strategic review work not been done in the Review Cycles?

While the Harmonized System Committee (HSC) has a mandate to look at amendments to the HS, they only meet twice a year, respectively, and are not a forum in which a major holistic review can be realistically undertaken.

The HSC and its Review Sub-Committee (RSC) have been the primary reason for the historically unusual longevity of the HS, through their work in looking at issues around specific classifications of products and developing the new editions of the HS. This, in itself, is a heavy workload and becoming heavier as the HS ages. In 2018, the HSC (*not* including the separate Working Party for drafting Classification Opinions) and

RSC meet for a combined total 36 working days. This is already a significant expenditure of resources for Members and asking Members to extend or increase meetings is not feasible.

Despite this time and effort put in, the combination of the difficulties of drafting legal text in-committee and the heavy agendas mean that there are important agenda items that have been raised but which will not be finished in this Review Cycle.

It is not possible for these Committees to undertake an exercise of such a scale as a strategic review and still do their important work of managing the current HS and undertaking the technical changes required within the current HS structure.

The HS was developed with the input and work of a range of user groups and the commitment of Members to the process. Achieving a major reform also requires the same broad community input and commitment. The scope of such reforms is far deeper than envisaged in the five-year updates the HSC and RSC undertake.

Instead, such an undertaking would require a collaborative effort with varied input (including from Members, the private sector, international organisations and academia) to examine the fundamentals of the system. This would be in line with the approach to the original development of the structure and content of the HS and provides the basis for a considered and sound reform.

Is there a better framework for effective HS development?

While the scope of the Conference is specifically the HS itself, consideration of the surrounding ethos to the change process is helpful to gain a perspective on how to proceed.

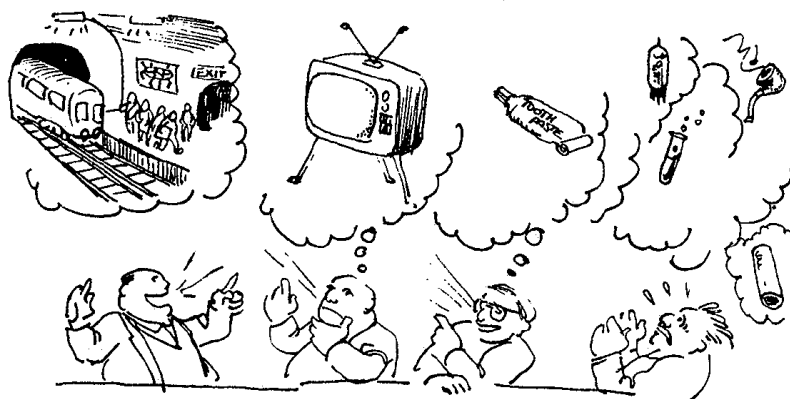
Transparency and information sharing – a basis for robustness?

The framework for negotiations for HS amendments and the HSC were forerunners in transparency and co-operation with stakeholders within the field of trade related negotiations.

At the time it was decided that the International Chamber of Commerce would be invited to observe and assist where requested, it was highly unusual for representatives of the private sector to be invited into intergovernmental negotiations on trade matters. This openness extended further and input is regularly sought by both individual Members and the HSC and RSC on matters under consideration. However, the HS negotiations are intergovernmental negotiations and this is still reflected in practices in regards to publication of information and other transparency matters.

Since the development of the HS, there has been a shift in many parts of the world in what is seen as optimal for trade negotiation transparency. In some places there is increased use of exposure drafts or other methods of expanding either consultation or information sharing or both.

Issues around transparency and information sharing are on the outer scope of this project, but are potential matters to consider.



DISCUSSION ON TUBES GOING ASTRAY

² Cartoon taken from the 1989 collection created by Mr. Jan Willem Reintjes

Annex I

The concerns in more depth

Looking at the various issues that were presented to the Policy Commission, we can merge them all into four principal areas: consistency of decisions, adaptability to changing needs, the use of the HS in relation to statistics, and usability.

1. Consistency of decisions

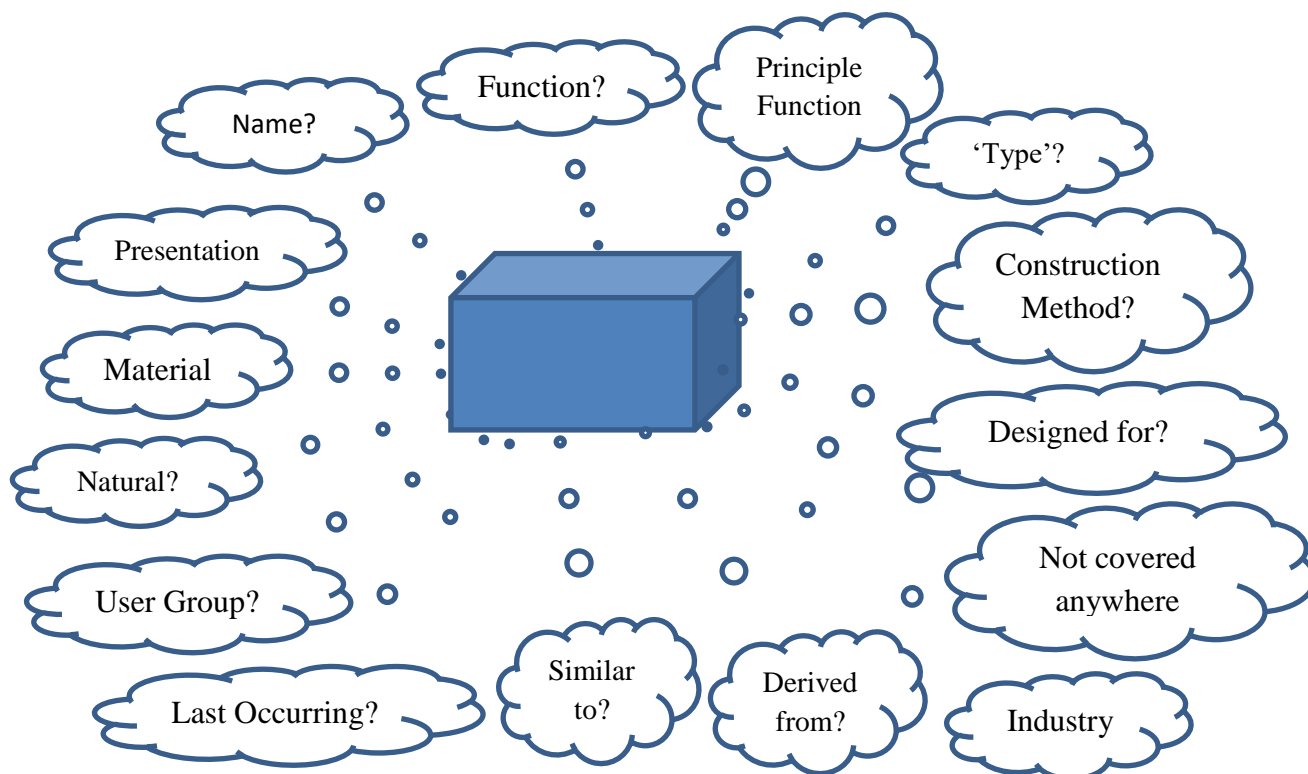
Global consistency is particularly challenging for new or highly differentiated product types. Misclassification nationally undermines the effectiveness of border controls and often results in incorrect duty and tax payments. Both nationally and globally, it reduces the reliability of statistics and the resulting information and the effectiveness of international policies on trade and trade control. Achieving consistency is a problem that is not restricted to under-resourced countries. Misclassification challenges all administrations.

Of course, there are multiple drivers and issues outside of the HS itself that contribute to inconsistent classification, but in this Conference, we are only looking at those inherent in the HS. Major factors built-in to the HS that influence the ability to achieve consistency include the following.

1.1 Classification criteria

Ideally, a classification system would have a simple and consistent basis or criteria for deciding on whether a product has membership in a group: preferably ones that resolve down to yes/no questions on easily observable characteristics. This is particularly so for a system, like the HS, that is used by a vast number of private users, with different languages, backgrounds, and capabilities.

Instead, the HS has a wide mix of criteria.



Products can fall into multiple headings with each candidate heading applying based on different criteria in the terms or Notes, giving rise to arguments on which of the criteria takes precedence.

1.2 Language

The HS is all about words. Specifically, it is about naming and describing objects.

Using words internationally for legal purposes raises issues of the precision, relevance and objectivity of the words themselves and their consistency of interpretation internationally.

In terms of the first area, the language of goods changes with time, product changes and common usage. Unless they still talk about the automata they saw at the shopping centre, then most people will find some of the terminology confusing. For example, what are “other sanitary wares of plastics”, why can’t I find laptops and why can’t I find fruit juices in the Chapter for “beverages”? In the language of the HS, other sanitary wares of plastics are items such as portable bidets, baby baths and camping toilets, laptops are called “portable automatic data processing machines, weighing not more than 10 kg, consisting of at least a central processing unit, a keyboard and a display” and fruit juices are classified with foods.

1.3 A complicated approach to resolving multiple possibilities

In order to solve the problem of multiple applicable headings, the HS uses two inter-related methods: the “General Interpretative Rules” and the “legal Notes”.

There are a wide range of legal Notes setting priorities among the headings. These are applied under General Interpretative Rule 1 (GIR 1). More than one Note can affect a single product’s classification. Some of these are quite simple, such as Section XVII, Note 4:

4.- For the purposes of this Section :

- (a) Vehicles specially constructed to travel on both road and rail are classified under the appropriate heading of Chapter 87;
- (b) Amphibious motor vehicles are classified under the appropriate heading of Chapter 87;
- (c) Aircraft specially constructed so that they can also be used as road vehicles are classified under the appropriate heading of Chapter 88.

Others are more complex as they require determination of multiple classifications of sub-products before the final classification can be determined, for example, Chapter 29, Note 5 (C) (3):

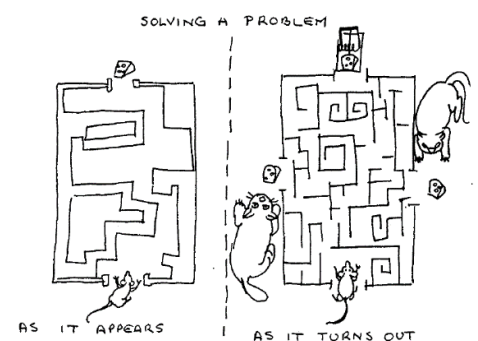
- (3) Co-ordination compounds, other than products classifiable in sub-Chapter XI or heading 29.41, are to be classified in the heading which occurs last in numerical order in Chapter 29, among those appropriate to the fragments formed by “cleaving” of all metal bonds, other than metal-carbon bonds.

Under this Note, you have to make imaginary breaks in molecules at the metal bonds (but not the metal-carbon bonds) and then classify *all* of the imaginary fragments that would then be formed to work out which one occurs last.

This complexity affects the ability to automate classification as many classifications rely on complex and subjective decisions. For example, Note 2 (e) to Chapter 84 requires a decision if a necessary heating or process is considered subsidiary. Chapter 95 headings demand a distinction between toys, entertainment articles and articles for outdoor games.

When the headings and Notes under General Interpretative Rule 1 do not resolve classification, then the next method is through General Interpretative Rule 3 (GIR 3), which requires consideration (in this order) of:

1. Which heading is more *specific* (provided that the headings cover the entire good);
2. *If* they are mixtures, composite goods made of different materials or components or sets put up for retail sale, *then* what material or component gives the essential character insofar as this criterion is applicable; or
3. ³What is the last heading among those that *equally merit consideration*



³ Cartoon taken from the 1989 collection created by Mr. Jan Willem Reintjes

This adds a further and deeper layer to the complexity and subjectivity mentioned above. For example, in the previously mentioned ready-to-eat chicken curry meal, where the components were individually packaged, what gives the essential character? The rice, the chicken or the curry sauce? What is more specific for a component – a classification to the type of goods relevant to the component or a classification as parts for the final product? For a 'water station' which has the functions of filtering, cooling, heating and dispensing water, which is the function that gives the essential character?

Finally, and only for goods that have no possible classification anywhere within the HS, there is another rule, General Interpretative Rule 4 (GIR 4), giving a "most akin" criterion to classify with like goods.

Once this is done, the whole process is repeated again at each level (five-digit and six-digit internationally and at each domestic subheading level used) until the final level is reached.

2. Adaptability to changing needs

In the current HS, a substantial proportion of the legal text and structure is a legacy from the Brussels Nomenclature or even as far back as the Geneva Nomenclature. This means that the bulk of the HS was developed during the first half of the last century. This leaves us with dated terminology and a slant towards basic commodities and finished manufactured products.

To begin, we would acknowledge that the range and complexity of the world's products mean that there will always be some areas where the HS is outpaced by change. We would acknowledge the hard work on the five-yearly updates of the HS, which have been primarily used to assist the HS in 'catching-up', albeit on a piece-meal basis.

The concerns lie around the fragmented nature of the updates in comparison to trade reality and the time taken for needed changes.

2.1 Speed of recognition of new product groups

New or radically transformed product groups have emerged faster than the HS has been able to change. This has meant that important product groups are often effectively hidden by being classified across a wide range of headings or by being buried in general or residual headings.

An example that may serve to illustrate the complexities in adapting to new product streams is the rise in cell therapy products.

Cell therapy products are modified living cell cultures used to treat a variety of conditions. While perhaps best known by the public in relation to cancer treatments, they are also used for many other conditions such as cardiac, neurological, hepatic, bone and autoimmune diseases. The source cells vary depending on the product and include stem cells and blood or tissue cells. Back in 2013, it was being reported that the market was worth 3.5 billion dollars (US\$) in 2012 and would grow to 6.6 billion by 2016⁴. Given the specialised nature of the products, it is reasonable to assume that a large part of that market will have originated outside of the consuming countries.

This raises the question of where these important medical products are classified and what the trade value is. They are not immunological products under the HS and there is no specific classification, so this was not a simple classification and exercised many of the best classification minds available. Consequently, the products were fitted into heading 3002.90 as either blood products or as cultures of micro-organisms and similar products, depending on the type of source cell.

30.02 Human blood; animal blood prepared for therapeutic, prophylactic or diagnostic uses; antisera, other blood fractions and immunological products, whether or not modified or obtained by means of biotechnological processes; vaccines, toxins, cultures of micro-organisms (excluding yeasts) and similar products.

3002.90 - Other

This helps to explain why in 2016 Comtrade gave a total global trade of over 6.8 billion dollars to 3002.90. Of course, determining from this what share of this relates to trade in cell therapy products is not possible.

⁴ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3858137/>

This example represents a major product stream, with political and regulation sensitivities, that had already reached a market value of 3.5 billion dollars in 2012 and will still be unidentifiable in the HS in 2021⁵. This raises the question of how we can ensure timely adaptation.

There is no automatic consideration of a product type for specific inclusion in the HS. The issue of cell therapy products came to attention when classifying products for the World Health Organisation. Many other product types that would meet the revenue threshold, public interest or policy impact criteria for consideration of a heading or subheading of their own, are either not put up or are put up only after many years of classification difficulties.

The time gap between the emergence of a product group as important, and its visibility in trade and trade statistics, can be considerable. Unmanned aerial vehicles (drones) have been used in war for over a hundred years, became civilian technology around 2006, and took off as consumer goods around 2014. We may have a specific heading for them in 2022, but currently, the classification of drones is highly dependent on what they are equipped with, leading to many drones being classified as cameras, for example, while still being subjected to regulation as aircraft.

2.2 The link between slow adaptation to new product classes and classification complexity

One of the examples we looked at above was of a chicken curry rice meal. Like many of the more difficult and subjective classification problems that problem could be considered an inevitable result from slow recognition of product groups that simply do not fit cleanly into any existing area and require classification provisions. Ready-to-eat meals have been in use for a long time, with the original “TV Dinner” coming out in 1953, and a major (multi-billion dollar) sector of the food industry for most of their history. They comprise ingredients from multiple Chapters that have been combined in a prepared meal. Without a classification for the prepared meal, then, like the above example, classification will descend into arguments on which ingredient is the most important – a situation that would not arise if there was a classification for ready-to-eat meals.

Nutraceuticals and other dietary products are another major example. Vitamin C tablets, for example, generally give the same benefits as, say, drinking citrus juice, whether they are taken by the merely cautious or by those who have less than optimal vitamin C intake, as there are bodily absorption limits. It clearly is a nutritional input, but it is not used to satiate hunger or thirst, instead it is put up in medicine-like form to supplement the diet. Currently, such food supplements are officially classified as ‘other food ... other’, but some countries are constrained by court decisions to classify them as pharmaceutical products. Without a clear classification of their own, the debates on the nature of such supplements and many other products used for health concerns will continue to result in judicial disputes, non-uniform treatment of these products and confusion for trade and officials alike.

2.3 Revenue issues and unintended tariffs on new technology

One of the more sensitive areas for governments and traders alike is where goods fall either in or out of classifications subject to substantive duties. As goods change beyond what was originally described in provisions products can shift out of provisions that are meant to contain them. For example, new methods to produce goods of a type intended to be dutiable, for example, goods subject to excise equivalent rates, can cause unexpected problems for governments. Conversely, when products embedding new and more efficient technologies are shifted into more highly taxed classifications than their predecessors, then you effectively have an innovation tax. As tariffs are national concerns, the only option for the HS to help avoid these unintended consequences is to have criteria that are relatively future-proofed for the near-to mid-term and to be responsive to changes in technology.

2.4 Global Value Chains

The rise of Global Value Chains (GVC) brought many challenges to trade data. Now there was a need to track more than just simple exports and imports between a pair of countries. Instead, data was needed on how much value was added in each country and for that, there was a need to understand what imports were inputs into the GVC. While some of this data could come from duty drawback schemes or from industry, the HS itself struggles to play its part effectively.

⁵ At the time of writing it is not known if an HS classification will be in place for the wider class of cell cultures in 2022.

A significant degree of this difficulty the HS faces arises from its issues with identifying parts in classification and its even greater difficulty with classifying subassemblies. For subassemblies, being more than single parts but not yet having the character of the finished good, they are often subject to consideration of 'what is the essential character' – a question that is a little like 'what is the meaning of life' in its potential to cause debate.

We still do not even have a coherent approach to the classification of single parts in the HS. People are often quite surprised to hear that a washing machine motor, a car headlight, an airplane gasket, a plastic knob for a stove, a castor wheel for a bed (provided it is under 75 mm or over 75 mm but with a width of the wheel or tyre less than 30 mm), blades for lawn mowers and many other parts of goods are not actually classified as parts of those goods. Parts classification has many apparent contradictions that are difficult for lay people to understand, for example, a hydraulic clutch for a vehicle is classified as a part, but an electro-magnetic clutch for a vehicle is not.

In terms of service to government, the failure to effectively report trade in intermediate goods in the 21st century may be seen as akin to failing to track the textiles, footwear and garment trade in the 20th century.

2.5 Environmental and social issues

This is a truly challenging area for the HS and one in which the level of demand is rising. Whether it is attempts to negotiate an Environmental Goods Agreement or the information requirements for the Sustainable Development Goals, the demand to recognise *qualities* of goods is a growing force that is pushing the limits of existing nomenclatures in all areas.

It should be noted that the design of classifications for such purposes also poses considerable policy problems. Consider the environmental perspective: what is currently considered desirable can quickly be seen as old technology or, worse, found to have unforeseen negative impacts. Adding this to the usual political, economic and diplomatic issues and adding in border manageability to the negotiation process is not always the first consideration if done without a contribution from the HS-aware sections of Customs administrations.

Recognising that political will can over-ride border practicalities, the HS is highly unlikely to remain isolated from having to incorporate such classifications. This is not familiar or simple ground for the HS. Designing sound border classification criteria to achieve such policy outcomes requires consideration of the policy aims, not just the features of the current products, and ways to specify validity criteria that are outside of normal HS practices.

This would be simplified by the construction of a framework of design considerations and practices. There would need to be consideration of: verifiability; how to capture core characteristics to prevent unintended scope expansion; how to increase technology neutrality to allow for future developments; and how to keep the resulting classifications workable at borders which may have few or no technical resources. To effectively achieve this type of framework alone is likely to require design changes in the HS to allow for new classification considerations.

2.6 Classification as a trade information tool

Globally, the demand for data and information is constantly increasing. We will look at this more when we look at the use of the HS for statistics, but it also impact on the types of changes requested.

Both the HS and its resulting trade data have always been, and will remain, important for their original purpose – the collection of taxes and data on such collections. However, by the time the HS was developed, it had already assumed another highly important role – as a basis for the National Accounts required for the management of the State. This is behind the strong emphasis in the Preamble of the Convention that the HS also serves statistical needs.

Since then, the role of statistics on trade, and the demand on the HS to accurately supplying the underlying information, has truly expanded. Global information on trade feeds in to a complex and multi-dimensional information network underpinning a wide range of decisions, policies, treaties, conventions and agreements that cover diverse areas.

As a consequence, there are increasing requests for classifications, particularly subheadings, based solely on the need for information on the trade in goods.

2.7 Security threats, dual-use goods, hazardous or illegal substances and other regulation sensitive issues

Once it was sufficient to know what a trade good was. From a societal perspective, there is the requirement to think about what else it might be used for or how it may be misused. This leads to demands on Customs to be able to identify both goods for regulation and good classifications which may contain sensitive goods. Again, this is an area where the speed of development far outpaces existing change provisions. Currently, there are international agreements to control trade in goods being negotiated, agreed and in force before the HS can be changed to identify the relevant trade streams.

2.8 Digital goods and more

Trade is facing a number of unknowns in regard to what may need to be accommodated in the future. One thing that does seem to be increasingly true is that change is happening faster and with less warning. This is something that all systems, including the HS, need to be prepared for so that they do not fail in the face of the demands.

3. The use of the HS for Statistics

There were three aims set out in the Convention as reasons the Harmonized System was developed. The second of these was:

“Desiring to facilitate the collection, comparison and analysis of statistics, in particular those on international trade,”

How well do we achieve this?

Initially, there was a close co-operation in the development of trade and statistical nomenclatures. In 1993, the UN Statistical Commission recommended that the HS be used as *the* commodity classification for Compilation and Dissemination of international merchandise trade statistics. Revision 3 of the Standard International Trade Classification (SITC) Nomenclature (SITC Rev. 3) was developed to correlate to the HS divisions and released in 1985. It also influenced the Central Product Classification (CPC) nomenclature.

However, looking at the issues of correlating the systems, it is clear that there are significant difficulties – why does this occur in systems that were developed to be compatible?

The main answer is in the complexity of the Rules and the Notes. The statistical systems reflected the terms, but, generally, the terms only partially control the scope of the provisions. In addition, the classification of goods which are barred by the Note or Rules from the classification that would otherwise cover them under its terms is frequently in unexpected or residual provisions.

This undermines the usability and reliability of statistics created from the transference of HS data into other nomenclatures through the correspondence tables. This has flow-on effects when the resulting statistics are used by governments and others to create policy and make decisions.

As an example, we can look at page 382 of the UN Comtrade 2016 International Trade Statistics Yearbook, Vol. II⁶, which provides information on the global trade in “Parts and accessories of the motor vehicles of 722, 781, 782 and 783” (SITC group 784). Looking at the Standard International Trade Classification (SITC) Revision 4⁷ we can see both the titles and HS correspondences for Group 784.

⁶ <https://comtrade.un.org/pb/>

⁷ https://unstats.un.org/unsd/publication/SeriesM/SeriesM_34rev4E.pdf

PARTS AND ACCESSORIES OF THE MOTOR
VEHICLES OF GROUPS 722, 781, 782 and 783

784.1	784.1	Chassis fitted with engines, for the motor vehicles of groups 722, 781, 782 and 783	8706.00
784.2		Bodies (including cabs), for the motor vehicles of groups 722, 781, 782 and 783	
	784.21	...for the vehicles of group 781	8707.10
	784.25	...for the vehicles of groups 722, 782 and 783	8707.90
784.3		Other parts and accessories of the motor vehicles of groups 722, 781, 782 and 783	
	784.31	Bumpers and parts thereof	8708.10
	784.32	Other parts and accessories of bodies (including cabs)	8708.21, .29
	784.33	Brakes and servo-brakes and parts thereof	8708.30
	784.34	Gearboxes and parts thereof	8708.40
	784.35	Drive-axles with differential, whether or not provided with other transmission components, and non-driving axles; parts thereof	8708.50
	784.39	Other parts and accessories	8708.70-.99

The SITC group 784 has faithfully reflected the HS terms it was based on. Unfortunately, the HS has a complex relationship with parts. Part classification is governed by two factors: terms of headings and the Notes. In heading 87.08, both are at work. The Notes have a major impact by reducing the group of goods the terms would otherwise cover on a plain reading. The primary Note involved is Note 2 to Section XVII. This Note excludes from heading 87.08 many goods which would otherwise be considered parts or accessories of cars. It begins “The expressions “parts” and “parts and accessories” do not apply to the following articles, whether or not they are identifiable as for the goods of this Section” and goes on to exclude a significant proportion of components.

The full list of goods *not* classified as parts or accessories of motor vehicles under Note 2 to Section XVII would be too long to detail here. Some **examples** include:

- engines and engine parts of Chapter 84;
- other goods of headings 84.01 to 84.79, 84.81 or 84.82 such as air-conditioners, pumps, compressors, fans, valves, filters etc.;
- electric motors, generators or transformers of Chapter 85
- Chapter 85 goods, including electro-magnetic clutches, ignition equipment, vehicle batteries, lighting, signalling apparatus, demisters, heating units, insulated wiring, wiring harnesses and *many* other electrical components or equipment;
- goods of Note 2 to Section XV or the like of plastic, for example: any fasteners (bolts, nuts, screws, washers etc.), locks, base metal mountings and fittings, door handles, number plates, beading strips, window opening mechanisms and various other goods;
- joints, gaskets and washers (classified dependent on the materials);
- mud guards, pedal covers and other rubber goods of vulcanised rubber other than hard rubber; and
- measuring or checking devices, revolution counters, taximeters, speed indicators and tachometers and other instruments of Chapter 90.

In addition, the GIRs also exclude many goods more specifically classified elsewhere, such as tyres, carpets, mirrors and seats.

Statistical analysis undertaken by governments or industry can amalgamate other data with group 784 to account for the excluded goods. However, not all relevant classifications specify end use, so the percentage of these imports for vehicles is unknown, and the whole exercise is difficult.

For people unfamiliar with the intricacies of the HS, often including journalists, political advisors and other people of influence, then statistics like this can be very misleading.

It is expected that the demands for trade data will continue to grow. There is a wide range of stakeholders who need this data, including governments, industry, global policy bodies, researchers, investors and financiers. This is especially so for goods that impact across multiple sectors of policy, are sensitive goods for trade negotiations or are major new trade sectors that are working to get established.

4. Usability

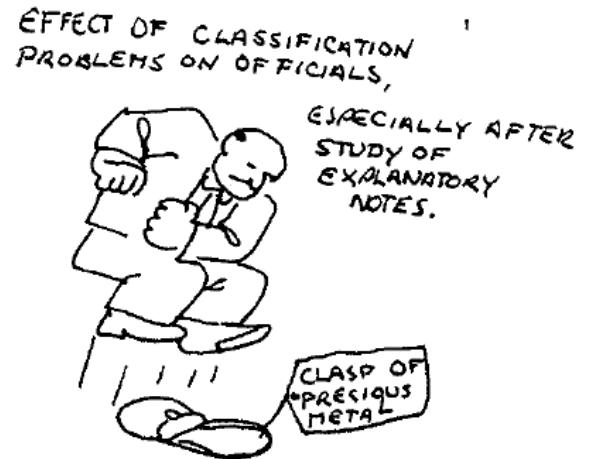
Usability is one of the most critical parameters in any system. No matter how elegant or comprehensive a system is, its success is measured in how it is used. So what does usability look like?

A large factor in assessing usability is how easy a system is to learn. Easily comprehensible rules, effective and simple language, and an understandable structure are all aspects which make a system easier to learn. They also help to make it easier for less frequent users to remember how to use the system when returning to it.⁸

Another factor is how quickly users can use the system to find a solution and how easy it is to do so correctly.

How long does it take to find the correct classification of a product? Does the system design work to reduce the chances of errors in this process? Are errors relatively easy to see?

Discussing all the factors around usability, and how to assess it, would require far more space than available here. But however we measure it, the success of a system like the Nomenclature is best judged by how it performs in use.



⁸ Cartoon taken from the 1989 collection created by Mr. Jan Willem Reintjes

Annex II

The Convention Preamble

INTERNATIONAL CONVENTION ON THE HARMONIZED COMMODITY DESCRIPTION AND CODING SYSTEM

(done at Brussels on 14 June 1983)

PREAMBLE

The Contracting Parties to this Convention, established under the auspices of the Customs Co-operation Council,

Desiring to facilitate international trade,

Desiring to facilitate the collection, comparison and analysis of statistics, in particular those on international trade,

Desiring to reduce the expense incurred by redescribing, reclassifying and recoding goods as they move from one classification system to another in the course of international trade and to facilitate the standardization of trade documentation and the transmission of data,

Considering that changes in technology and the patterns of international trade require extensive modifications to the Convention on Nomenclature for the Classification of Goods in Customs Tariffs, done at Brussels on 15 December 1950,

Considering also that the degree of detail required for Customs and statistical purposes by Governments and trade interests has increased far beyond that provided by the Nomenclature annexed to the above-mentioned Convention,

Considering the importance of accurate and comparable data for the purposes of international trade negotiations,

Considering that the Harmonized System is intended to be used for the purposes of freight tariffs and transport statistics of the various modes of transport,

Considering that the Harmonized System is intended to be incorporated into commercial commodity description and coding systems to the greatest extent possible,

Considering that the Harmonized System is intended to promote as close a correlation as possible between import and export trade statistics and production statistics,

Considering that a close correlation should be maintained between the Harmonized System and the Standard International Trade Classification (SITC) of the United Nations,

Considering the desirability of meeting the aforementioned needs through a combined tariff/statistical nomenclature, suitable for use by the various interests concerned with international trade,

Considering the importance of ensuring that the Harmonized System is kept up-to-date in the light of changes in technology or in patterns of international trade,

Having taken into consideration the work accomplished in this sphere by the Harmonized System Committee set up by the Customs Co-operation Council,

Considering that while the above-mentioned Nomenclature Convention has proved an effective instrument in the attainment of some of these objectives, the best way to achieve the desired results in this respect is to conclude a new international Convention,

Have agreed as follows :

Annex III

The Harmonized System

While many participants at the HS Conference use the HS in their daily working lives, others do not, so we offer this as a brief explanation of the HS.

The HS is a taxonomic system for goods. It provides a taxonomic hierarchy (the arrangement of various categories in successive levels of classification) and a nomenclature under which goods can be classified. The HS creates an ordered system for the classification of goods, where more general classes of goods contain more specific classes of goods.

It is made up as follows.

- **General Rules for the Interpretation of the Harmonized System (GIRs)**

A set of six rules forming the legal basis of classification. All classifications must be made according to these rules.

- **21 Sections (Section I to Section XXI)**

The HS is divided into 21 broad 'groupings' of goods called sections.

Example: "Section I - LIVE ANIMALS; ANIMAL PRODUCTS"

- **96 Chapters (Chapters 1 to 97)**

Each section is further divided into one or more chapters (Chapter 77 is not used).

Example: "Chapter 1 – Live animals"

- **Headings (four digit numbers)**

These are the **first legal level of classification**. All goods must be classified into a heading first. The first two digits identify the Chapter it is within and the second two give the order the heading fall in within the Chapter. Classification at heading level requires consideration of the "terms of heading" (TOH), being the description, and all relevant Section and Chapter Notes.

Example: "01.01 - Live horses, asses, mules and hinnies".

- **Section Notes**

These are of equal legal weight to headings and any relevant section Notes must be considered when undertaking classification. Section Notes will have application within the Section but may also affect other Sections or apply to the entire HS.

Example: Note 1 to Section I - "1.- Any reference in this Section to a particular genus or species of an animal, except where the context otherwise requires, includes a reference to the young of that genus or species."

- **Chapter Notes**

These are of equal legal weight to headings and Section Notes. Any relevant Chapter Notes must be considered when undertaking classification. Chapter Notes will have application within the Chapter but may also affect other Chapters or apply to the entire HS.

Example: Note 1 to Chapter 1 –

"1.- This Chapter covers all live animals except :

(a) Fish and crustaceans, molluscs and other aquatic invertebrates, of heading 03.01, 03.06, 03.07 or 03.08;

(b) Cultures of micro-organisms and other products of heading 30.02; and

(c) Animals of heading 95.08.”

- **Five-digit Sub-headings (five-digit numbers)**

These are the second legal level of classification. All goods must be classified into a heading first, then classified in the relevant five-digit Subheading where applicable. The first four digits identify the parent heading and the fifth identifies the individual subheading within the heading.

Example: the first five-digit subheading in heading 01.01 is subheading “0101.2 - “Live horses”

- **Subheading Notes**

These are of equal legal weight to subheadings and, along with any relevant Section and Chapter Notes, must be considered when undertaking classification at the five-digit and the following six-digit levels. Subheading Notes are normally specific to one or more subheadings.

Example: the first Subheading Note in the HS currently is Subheading Note 1 to Chapter 10 - “1.- The term “durum wheat” means wheat of the *Triticum durum* species and the hybrids derived from the inter-specific crossing of *Triticum durum* which have the same number (28) of chromosomes as that species.”

- **Six-digit Subheadings (six-digit numbers)**

These are the third, and last, legal level of classification internationally. All goods must first be classified into a heading, and then, if applicable, the five-digit Subheading and then the relevant six-digit Subheading falling under that five-digit subheading. The first four digits identify the parent five-digit subheading and the sixth identifies the individual six-digit subheading under the five-digit subheading.

Example: the first five-digit subheading in heading 01.01 is subheading “0101.21 - - Pure-bred breeding animals”

Note: all relevant Notes (Section, Chapter and Subheading) must be applied again at this level.

Thanks to its versatile structure, and multipurpose nature, the HS, as the true “language of international trade”, is also used for many other purposes such as trade policy, rules of origin, monitoring of controlled goods, internal taxes, freight tariffs, transport statistics, quota controls, and economic research and analysis. Governments and businesses alike use the HS as a unique way of identifying and coding merchandise in order to facilitate international trade and Customs regulations and applications. The HS is, therefore, an important instrument not only for the WCO but also for all institutions, public or private, involved in world trade. The HS contributes to the harmonisation of Customs and trade procedures, and the non-documentary trade data interchange in connection with such procedures, thus reducing the costs related to international trade.

While the HS has many uses, the primary use for the present and the foreseeable future is still the collection of import duties and taxes. As of today, approximately 80 % of the WCO member countries could be characterised as developing or in transition to a market economy. A large percentage of these countries depend (and will continue to depend) to an important extent on Customs duties for their national revenues. This only serves to emphasise the importance of the HS for day-to-day Customs work. Goods need to be properly classified in order to ensure revenue collection.

Proper classification is also necessary for reliable trade statistics (which policy makers, both in government and the private sector, need in order to take informed decisions on trade policy), controls, monitoring of controlled substance, etc.

The HS development was aimed to facilitate Customs controls and international trade.



WORLD CUSTOMS ORGANIZATION
ORGANISATION MONDIALE DES DOUANES