



**Asia-Pacific
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Advancing Free Trade
for Asia-Pacific **Prosperity**

APEC Customs Time Release Comparison Study – Case Study of AEO MRAs between APEC Member Economies

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* The views expressed in this paper are those of the author and do not necessarily represent those of APEC Member Economies.

Executive Summary

The “APEC Customs Time Release Comparison Study – Case Study of AEO MRAs” is a part of a 2-year APEC-Funded project jointly conducted by Chile and Chinese Taipei (SCCP 01 2019A) to address opportunities for and challenges to SMEs in Authorized Economic Operator (AEO) certification and Mutual Recognition Agreements/Arrangements (MRAs).¹ The study demonstrates findings through investigations and case studies of APEC Member Economies. In the Phase two of the project, Chinese Taipei conducted two separate studies: the “AEO Benefits Survey based on the WCO SAFE Framework of Standards in Pillar 3” and the “APEC Customs Time Release Comparison Study – Case Study of AEO MRAs”.

This is a study self-funded by Chinese Taipei that aims to support better understanding to the benefits of Authorized Economic Operators (AEO) certification and Mutual Recognition Agreements/Arrangements (MRAs). By using case studies of AEO MRAs between APEC Member Economies, the project demonstrates whether and how AEO MRAs can reduce customs clearance times for AEOs, which is a clear indication of trade facilitation. Four Member Economies – Chinese Taipei; Japan; Korea and New Zealand – participated and provided AEO MRA time release cases.

The findings are that for most of the submitted cases, customs release times were effectively reduced for imports of both Sea Cargo and Air Cargo after the participating Member Economies implemented the relevant AEO MRAs. The percentage change or improvement ranged from less than 30 percent to around 80 percent to even complete reduction of customs release time.

The study also finds that in some cases, after the AEO MRAs were implemented, the proportion of numbers of cargo declarations designated in the Cargo Examination category in all declarations significantly decreased, while the proportions of numbers of declarations designated in the Free of Paper and Cargo Examination category increased. This may suggest that as AEO MRAs simplify and facilitate custom procedures for AEO operators, AEO operators may find that more of their

¹ SCCP 01 2019A “APEC Customs Time Release Comparison Study – Case Study of AEO MRAs between APEC Member Economies”

declarations are moved to the Free of Paper and Cargo Examination or Paper Review categories. The facilitated results represent the significant benefits of AEO MRAs in reduced inspections and custom clearance times.

According to the study interviews with AEO-certified Small and Medium sized Enterprises (SMEs) in Chinese Taipei, the benefits of AEO MRAs and government-to-business communications, including awareness-raising activities and training programs, are important factors that determine whether SMEs in Chinese Taipei apply for AEO certification. Some of the SMEs confirmed the significant reduction of customs clearance times compared to before they were AEO certified. Furthermore, SMEs also expressed that requests from international clients were also critical. For example, some SMEs said that their clients in the United States requested all suppliers in the supply chains to have certain AEO certifications. All of the SMEs suggest that the government signs and implements AEO MRAs with the APEC Member Economies and non-Member Economies that they considered their major or potential market, especially some of the less developed economies where customs procedures are sometimes burdensome or less efficient. Some SMEs shared their concerns over the COVID-19 pandemic and its implications on trade flows and customs operations.

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ACRONYMS AND OTHER INITIALS

AEO	Authorized Economic Operator
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
CBP	Customs and Border Protection
MRA	Mutual recognition agreement or arrangement
PSU	Policy Support Unit
SAFE	Standards to secure and facilitate global trade
SCCP	Sub-committee on Customs Procedures
SME	Small and Medium Enterprise
OGA	Other Government Agency
TFA	Trade Facilitation Agreement
WCO	World Customs Organization
WTO	World Trade Organization

I. Background

In 2002 the World Customs Organization (WCO) established a task force to examine how to balance supply chain security with trade facilitation to respond to the increasing debate on issues relating to supply chain security following the 9/11 attack in the United States in 1999. In 2005, the WCO adopted the Standards to Secure and Facilitate Global Trade (SAFE) Framework, which introduced the concept of an Authorized Economic Operator (AEO). An AEO is defined as “a party involved in the international movement of goods in whatever function that has been approved by or on behalf of a national customs administration as complying with WCO or equivalent supply chain security standards.”²

The number of AEO Mutual Recognition Arrangements/Agreements (MRAs) signed during the past years has increased considerably. There are also dozens of MRAs currently being negotiated. The updated edition of the AEO Compendium released by WCO in 2019 identifies, among others, 84 operational AEO programs and 19 AEO programs under development. It also identifies 30 operational Customs Compliance programs and 5 Customs Compliance programs due to be launched. Furthermore, 74 bilateral and four plurilateral/regional AEO MRAs had been concluded and 65 MRAs were under negotiation.³

On this background, APEC Member Economies began to discuss and promote the AEO concept in 2005 with an aim not only to enhance supply chain security and connectivity but also to promote regional economic integration. The Sub-Committee on Customs Procedures (SCCP) has included the “APEC Framework based on the WCO SAFE Framework” in its Collective Action Plan. In 2011, it further included a section on “AEO and MRAs,” aiming to encourage the signing of AEO MRAs between and among interested APEC Member Economies. Under bilateral or regional MRAs, AEO programs of the participating Member Economies are mutually recognized, hence AEO enterprises of both or all participating economies can enjoy

² World Customs Organization (WCO). (2019). AEO Compendium, 2019 Edition. P.2 Retrieved from <http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-and-tools/tools/safe-package/aeo-compendium.pdf?db=web>

³ Ibid

mutual customs clearance benefits, including reduced examination and prioritized clearance.

According to the [“Study of APEC Best Practices in Authorized Economic Operator \(AEO\) programs”](#) published by the APEC Policy Support Unit (PSU) in May 2016, 17 APEC Member Economies had already implemented various AEO programs, as of 2016.⁴ However, the same study also found that the amount of AEO MRAs signed by Member Economies made up only 12 percent of all agreements signed within APEC.

In 2019, according to Chile’s findings in the report [“Opportunities to expand Mutual Recognition Agreements and the inclusion of SMEs”](#) prepared in the Phase 1 of this APEC-Funded Project by the Inter-American Bank of Development (IADB), in the Phase 1 study of this 2-year project of “AEO in APEC Economies”, after 3 years of promotion of AEO MRAs, the network of the MRAs in the APEC region had expanded to 48 bilateral MRAs between 14 Member Economies, as well as two multilateral agreements that cover three Member Economies in Latin America: Chile, Mexico and Peru. Furthermore, an additional 71 MRAs had entered into force between APEC economies and the rest of the world, and five more were currently being negotiated between APEC Member Economies.⁵

Apart from the increase in the number of AEO MRAs signed and implemented by APEC Member Economies, the number of AEO-certified enterprises in the APEC region also rose from 17,409 in 2018 to 18,183 in 2019, or an increase of 4.45 percent, according to Chile’s report based on the information provided in the WCO’s AEO Compendiums 2019.⁶ For the three participating Member Economies of this study:

⁴ The 17 APEC Member Economies are Australia; Canada; China; Hong Kong, China (HKC); Indonesia; Japan; Korea; Malaysia; Mexico; New Zealand; Peru; Russia; Singapore; Chinese Taipei; Thailand; the United States; and Viet Nam.

⁵ APEC. (2019). AEO in APEC Economies - Opportunities to expand Mutual Recognition Agreements and the inclusion of SMEs. Chile. P. 17.

⁶ WCO. (2019). AEO Compendium, 2019 Edition. Retrieved from <http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-and-tools/tools/safe-package/aeo-compendium.pdf?db=web>

Chinese Taipei; Japan; and New Zealand, there are 122, 690⁷, and 317⁸AEO-certified enterprises or AEO importers/exporters, respectively.⁹

However, though APEC and Member Economies have endeavored to promote various AEO programs and MRAs, challenges still remain in the delivery of effective and convincing evaluation or assessments of the benefits of the MRAs to AEOs or economic operators in general, particularly for Small and Medium sized enterprises (SMEs). It is widely regarded that the lack of convincing MRA impact evaluation makes it challenging for international institutions or customs authorities to provide quantitative assessments or “hard evidence” to demonstrate or present the benefits of AEO MRAs to the business community or other government agencies (OGAs) not directly involved in customs procedures.

For example, according to the PSU’s “Study of APEC Best Practices in Authorized Economic Operator (AEO) Programs” in 2016, the research team pointed out that MRAs were expected to reduce the border compliance costs for businesses and improve border security, but these benefits were hard to measure.¹⁰ There was no readily available “hard evidence” showing a “before and after” picture of the effects or benefits of an AEO MRA on trade facilitation or the monetary value to businesses of reduced inspections and faster release times. It is thus important for border agencies, customs authorities, policy makers and AEO enterprises to find out whether and how AEO MRAs grant benefits to AEO companies, particularly to SMEs, through reducing customs release time, cutting operation costs, or providing other forms of benefits or cost-saving results to AEO enterprises.

A significant part of the PSU report is that it provides an empirical case study of release time comparison in the report, which shed some light on using empirical customs data to present the long expected “hard evidence” of AEO MRA benefits for APEC Member Economies. According to the PSU report, after implementation of the

⁷ Ibid, p.47.

⁸ Ibid, p.38.

⁹ There is no information of AEO importer/exporters in Korea. Ibid.

¹⁰ The study pointed out that this data may be confidential to member economies due to security concerns about releasing this information.

bilateral AEO MRA between China and Korea, their customs authorities conducted a test survey. According to the test survey results, they found that the customs clearance time in China and Korea for AEO exports were reduced substantially. In China, the average customs clearance time for declarations of AEO-certified enterprises from Korea decreased by 62.1 percent, from 10 hours 17 minutes to 3 hours 54 minutes. While in Korea, the customs clearance time for declarations of AEO-certified enterprises from China decreased by 55.9 percent, from 5 hours 10 minutes to 2 hours 16 minutes. The bilateral AEO MRA had benefitted AEO-certified enterprises in both Member Economies.¹¹

The PSU research team then suggested further study to be conducted within APEC to provide similar or further quantitative survey results of empirical cases to demonstrate that AEOs and AEO MRAs can improve both supply chain security and trade efficiency for participating Member Economies. The empirical assessments, such as a Release Time Comparison Study, would involve an exchange of customs data on cargo release times before and after the AEO MRAs are implemented so as to distinguish the Release Time difference in the surveyed Member Economies.¹²

It is on this background that Chinese Taipei and Chile collaborated in conducting this 2-year project to examine and survey AEO programs in APEC with a focus on AEO and AEO MRA benefits for businesses, especially SMEs. This study assessing AEO MRAs aims to take up the suggestions proposed in the PSU study in 2016 to provide “hard evidence” of more quantitative empirical case studies before and after implementation of AEO MRAs.

To be more specific, Chile in its first-year study found that 30 percent of AEO-certified importers/exporters perceived goods to be released faster when exporting to or importing from a MRA counterpart economy.¹³ Chinese Taipei’s study,

¹¹ Within APEC, China and Korea have carried out research on the effect of MRAs on trade. In 2014, China and Korea quantitatively measured and jointly presented the effects of their test MRA implementation. Ibid

¹² Ibid., P.41-42.

¹³ APEC. (2019). AEO in APEC Economies - Opportunities to expand Mutual Recognition Agreements and the inclusion of SMEs. Chile. P. 54.

based on and extended from Chile's findings from the first year, moves further towards a structured quantitative survey on more AEO MRAs between APEC Member Economies. The results provided in this study are expected to complement APEC's previous research on AEO-related issues and demonstrate on-the-ground experience from Member Economies on formalizing and optimizing the implementation of AEO MRAs for the benefit of not just government agencies but also exporters, importers and other players in supply chains within the APEC region.

II. Methodology

1. The Approach

The PSU "Study of APEC Best Practices in Authorized Economic Operator (AEO) Programs" provided a comprehensive background and literature review of AEO developments and introduced the various AEO programs in APEC. It also includes a test survey of quantitative assessments of an AEO MRA between two APEC Member Economies. The test survey presented for the first time in APEC projects the real Customs Release Time comparison for cargo before and after the implementation of an AEO MRA.

This study moves further and intends to measure the quantitative benefits of signing and implementing AEO MRAs between Member Economies by examining and comparing the average customs clearance time (release time) spent on imports before and after the implementation of an AEO MRA between the exporting and importing Member Economies. The comparison study results provide a useful understanding to whether and how AEO MRAs actually facilitated the import clearance for AEO enterprises in Member Economies.

2. Data Collected

In the case studies, participating Member Economies were asked to provide and divide their customs data into two time periods – Stage 1 and Stage 2 procedures. Stage 1 is the time period fully under customs supervision, starting from filing customs declarations to release of documents. Stage 2 is the time period covering a wider scope, starting from the arrival of cargo (both sea cargo and air cargo) to the delivery of cargo. In contrast to Stage 1, Stage 2 is the time period partially under customs supervision. Participating Member Economies selected the data of

AEO-certified importers and recorded the release times from import declarations filed by AEO-certified enterprises using the AEO MRA and calculated the average release time for all such declarations. The study then separated the average release time before AEO implementation and the average release time after AEO implementation. By making comparisons between the average release times of the two groups, Member Economies could see the release time difference and evaluate the benefits on quantitative measurement. This study surveys cases of average release times for both air cargo and sea cargo.

Four Member Economies submitted case data and analyses under Stage 1 customs procedures. One Member Economy also submitted its case analysis under Stage 2 customs procedures. The study will therefore focus on the comparison of cases under Stage 1 customs procedures and provide some complementary observations on Stage 2 customs procedures.

In some cases, the customs data were divided into three categories based on difference clearance modes: Free of Paper and Cargo Examination, Paper Review, and Cargo Examination, in order from high degree of ease and facilitation to low degree. In such cases, there were four average release times: the average times for each of the three categories and the average times for the whole customs procedures. The rate of change was calculated comparing the average time for the whole customs procedures before and after the implementation of the AEO MRAs. The study also compared the release times of sea cargo and air cargo within the Member Economies to see if there was any difference between the customs procedures of sea cargo and air cargo.

It is important to note that, the customs authorities of the four participating Member Economies used their internal definitions and calculations of their release times, which may differ between Economies. Therefore, this study mainly focuses on the comparison of the release times before and after the AEO MRAs within the same Member Economy, and avoids cross-economy comparison which was not feasible due to the possible difference in data definition.

Figure 1 below presents and describes the import procedures under Stage 1 and Stage 2, comprising the arrival of cargo, the filing of customs declarations, the release of documents, and finally, the delivery of cargo. Table 1 shows the template of the data to be filled by participating Member Economies. The Customs authorities of the participating Member Economies needed to select and calculate from all import

declarations of AEOs using the MRA with the counterpart economy, and put in the average release time (to seconds) for the declarations before and after implementation of the AEO MRA (the pre-MRA and post-MRA time period).

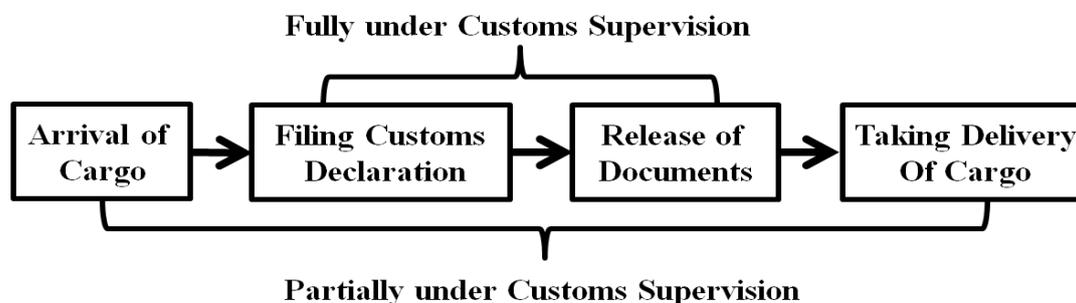


Figure 1 Import procedures under Stage 1 and Stage 2

Table 1 AEO MRA Survey Template⁽¹⁾

Stages ⁽²⁾	Types of Imports ⁽⁴⁾	Pre - MRA ⁽⁵⁾ (yyyy/mm/dd-yyyy/mm/dd)	Post - MRA (yyyy/mm/dd-yyyy/mm/dd)	Rate of Change (%)
Stage 1	Sea Cargo	XX days XX hours XX min. XX sec. ⁽⁶⁾		XX.XX
	Air Cargo			
Stage 2 ⁽³⁾	Sea Cargo			
	Air Cargo			

(1) Please state the name of the partner economy that you signed AEO MRA with.

(2) If "Partner Government Agencies (PGAs)" have authority over import clearance under certain circumstances, please identify the PGAs involved and include as much detail as possible.

(3) Stage 2 is not strictly required.

(4) Member Economies are welcomed to provide more detailed data if types of imports can be further categorized into different modes of clearance (e.g. with / without physical examination, document review or Green Line / Red Line).

(5) Please identify the number of samples and the time frame in pre-MRA and post-MRA

periods.

- (6) It is strongly recommended that Member Economies should provide the data of customs clearance time at least in hours.

III. Analysis of the Customs Release Times under AEO MRAs between APEC Member Economies

Four APEC Member Economies, including Chinese Taipei; Japan; Korea; and New Zealand, submitted their release time cases for both sea cargo and air cargo according to the data requests in the survey template explained in Section II. This section describes the cases from the four participating Member Economies and makes due comparisons. Among the participating Member Economies, Chinese Taipei provided cases for both Stage 1 (fully under customs supervision) and Stage 2 (partially under customs supervision) customs procedures, while Japan; Korea; and New Zealand provided only cases for Stage 1 customs procedures. The comparisons will hence focus on Stage 1 customs procedures for both sea cargo and air cargo and provide cases analysis under Stage 2 procedures as complementary to Stage 1 analysis.

1. Chinese Taipei

As of May 2020, Chinese Taipei had signed and implemented AEO MRAs with China; Singapore; Japan; Korea; Australia; and the United States, and with non-APEC economies including Israel and India. Being an export-oriented economy highly dependent on international trade for its economic momentum, Chinese Taipei regards the AEO MRAs as an important tool for its enterprises to reduce time and business costs as well as to enhance supply chain security and management. Furthermore, to Chinese Taipei's prioritized development of electronics and information and communications technology (ICT), AEO MRAs can facilitate the customs procedures of imports/exports of electronics and ICT products and thus allow AEO-certified enterprises to adopt "Just in Time" and "Zero Inventory" management models provided the significant reduction to customs clearance times from AEO MRAs.

Chinese Taipei provided three cases under its bilateral AEO MRA with Japan; Korea and Australia, respectively. The customs data of imports from Japan and Korea submitted by Chinese Taipei can be used as mirror data to compare with the import

data from Chinese Taipei submitted by Japan and Korea. These pairs of data can provide important policy implications for further research of customs procedures of the importer sides and exporter sides of an AEO MRA and information on how the programs are utilized by importers and exporters in different Member Economies.

i. Chinese Taipei's imports from Japan under the Chinese Taipei-Japan AEO MRA

The Chinese Taipei-Japan AEO MRA was signed in November, 2018, and later entered into force on May 22, 2019. Before implementation of the MRA, the average release time of Sea Cargo under Stage 1 customs procedures from Japan was 12 hour 17 minutes and 26.3 seconds (customs data collected during 2018/10/12~2019/05/21). After implementation of the MRA, the average time was reduced to 8 hours 19 minutes and 26.9 seconds (customs data collected during 2019/05/22~2019/12/31), which was a reduction of 32.27 percent. Before MRA implementation, the average release time of Air Cargo was 47 minutes and 52.5 seconds (customs data collected during 2018/10/12~ 2019/05/21). This was reduced to 34 minutes and 1.4 seconds (customs data collected during 2019/05/22~2019/12/31) after MRA implementation, a reduction of 28.93 percent.

Chinese Taipei also provided cases from Japanese imports for Stage 2 customs procedures. This study compared the Stage 2 cases as complementary to the Stage 1 cases. The average release time of Sea Cargo under Stage 2 procedures before and after the implementation of the MRA was 6 days 9 hours 27 minutes and 21.8 seconds and 3 days 6 hours 21 minutes and 53.8 seconds. The rate of change is -48.63 percent. However, for Air Cargo, the average release time before implementation of the MRA was 1 day 6 hours 26 minutes and 42.1 seconds. The average release time after the implementation of the MRA was 1 day 13 hours 48 minutes and 43.9 seconds, showing an increase of 24.20 percent. As Stage 2 procedures include clearance procedures out of customs supervision, it will require further examination of the details of the data to understand this unexpected result.

ii. Chinese Taipei's imports from Korea under the Chinese Taipei-Korea AEO MRA

Chinese Taipei and Korea signed an AEO MRA in December 2015, which later entered into force on October 1, 2016. Before the MRA was implemented, the

average release time of Sea Cargo from Korea under Stage 1 customs procedures was 17 hours 53 minutes and 53 seconds (customs data collected during 2016/01/01~2016/09/30). There were no records of filed declarations after the MRA was implemented (customs data collected during 2016/10/01~2019/12/31). Before the implementation of the AEO MRA, the average release time of Air Cargo (customs data collected during 2016/01/01~2016/09/30) from Korea was 45 minutes and 30 seconds, which reduced to 27 minutes and 19.7 seconds (customs data collected during 2016/10/01~2019/12/31), or a decrease of 39.94 percent after the MRA.

With respect to customs data under Stage 2 customs procedures, the average release time of Sea Cargo from Korea before the implementation of the MRA was 5 days 22 hours 48 minutes and 24 seconds. There were no records of filed declarations after the implementation of the MRA. The average customs release time of Air Cargo before the implementation of the MRA was 2 days 12 hours 27 minutes and 33 seconds. This was reduced to 1 day 22 hours 0 minutes and 3 seconds, or a decrease of 23.91 percent.

iii. Chinese Taipei's imports from Australia under the Australia-Chinese Taipei AEO MRA

The Chinese Taipei-Australia MRA was signed in June, 2018 and later entered into force in June, 2019. Before the implementation of the MRA, the average release time of Sea Cargo from Australia under Stage 1 customs procedures was 2 days 16 hours 54 minutes and 28.5 seconds (customs data collected during 2018/11/01~2019/05/31). After the implementation of the MRA, the average release time was reduced to 23 hours 59 minutes and 34.5 seconds (customs data collected during 2019/06/01~2019/12/31), showing a significant reduction of 63.04 percent. Before the implementation of the MRA, the average release time of Air Cargo from Australia was 4 hours 52 minutes and 28.4 seconds (customs data collected during 2018/11/01~2019/05/31). There were no records of filed declarations after the MRA was implemented (customs data collected during 2019/06/01~2019/12/31).

With respect to customs data under Stage 2 customs procedures, the average release time of Sea Cargo from Australia before the implementation of the MRA was 5 days 22 hours 48 minutes and 24 seconds. There were no records of filed declarations after the implementation of the MRA. The average customs release time of Air Cargo before the implementation of the MRA was 2 days 12 hours 27 minutes

and 33 seconds. This was reduced to 1 day 22 hours 0 minutes and 3 seconds, representing a decrease of 23.91 percent.

The average release time of Sea Cargo from Australia under Stage 2 customs procedures before the implementation of the MRA was 5 days 13 hours 29 minutes and 3.3 seconds. However, the release time after implementation of the MRA showed an increase to 22 days 2 hours 48 minutes and 0 seconds. The release time increased 297.65 percent. It will require further examination of the data to understand this unusual result.

The average customs release time of Air Cargo before the implementation of the MRA was 1 day 0 hours 15 minutes and 56.9 seconds. There were no records of filed declarations after the AEO is implemented.

Tables 2, 3 and 4 respectively demonstrate Chinese Taipei's submitted release times of imports from Japan; Korea and Australia.

Table 2 Release Times and Rates of Change of Chinese Taipei's Imports from Japan under the Chinese Taipei-Japan AEO MRA

Chinese Taipei		Before the Entry into Force of AEO MRA (2018.10.12~2019.05.21)	After the Entry into Force of AEO MRA (2019.05.22~2019.12.31)	Rate of Change (%)
Stage 1	Sea Cargo	0 days 12 hours 17 min. 26.3 sec.	0 days 8 hours 19 min. 26.9 sec.	-32.27
	Air Cargo	0 days 0 hours 47 min. 52.5 sec.	0 days 0 hours 34 min. 1.4 sec.	-28.93
Stage 2	Sea Cargo	6 days 9 hours 27 min. 21.8 sec.	3 days 6 hours 21 min. 53.8 sec.	-48.63
	Air Cargo	1 day 6 hours 26 min. 42.1 sec.	1 day 13 hours 48 min. 43.9 sec.	24.20

Table 3 Release Times and Rates of Change of Chinese Taipei's Imports from Korea under the Chinese Taipei-Korea AEO MRA

Chinese Taipei		Before the Entry into Force of AEO MRA (2016/01/01~2016/09/30)	After the Entry into Force of AEO MRA (2016/10/01~2019/12/31)	Rate of Change (%)
Stage 1	Sea Cargo	0 days 17 hours 54 min. 53 sec.	No Records	-

	Air Cargo	0 days 0 hours 45 min. 30 sec.	0 days 0 hours 27 min. 19.7 sec.	-39.94
Stage 2	Sea Cargo	5 days 22 hours 48 min. 24 sec.	No Records	-
	Air Cargo	2 days 12 hours 27 min. 33 sec.	1 day 22 hours 0 min. 3 sec.	-23.91

Table 4 Release Times and Rates of Change of Chinese Taipei's Imports from Australia under the Australia-Chinese Taipei AEO MRA

Chinese Taipei		Before the Entry into Force of AEO MRA (2018.11.01~2019.05.31)	After the Entry into Force of AEO MRA (2019.06.01~2019.12.31)	Rate of Change (%)
Stage 1	Sea Cargo	2 days 16 hours 54 min. 28.5 sec.	0 days 23 hours 59 min. 34.5 sec.	-63.04
	Air Cargo	0 days 4 hours 52 min. 28.4 sec.	No Records	-
Stage 2	Sea Cargo	5 days 13 hours 29 min. 3.3 sec.	22 days 2 hours 48 min. 0 sec.	297.65
	Air Cargo	1 day 0 hours 15 min. 56.9 sec.	No Records	-

iv. Release Times of Declarations in Different Clearance Mode Categories

The release time cases provided by Chinese Taipei further divided release times into three categories based on different clearance modes: Free of Paper and Cargo Examination, Paper Review, and Cargo Examination. Except for the release times of imports from Australia which were not enough for analysis, the average release times of Sea Cargo and Air Cargo designated in the three categories showed reductions after the implementation of the AEO MRAs with Japan and Korea, except that the release time of Air Cargo from Japan under Stage 2 after the AEO MRA increased by 24.2 percent, showing a different trend from all other cases.

Table 4 shows the release times and Rates of Change of Chinese Taipei's imports from Japan before and after the Chinese Taipei-Japan AEO MRA in three categories. The release times of Sea Cargo under Stage 1 procedures in the Free of Paper and Cargo Examination category and Paper Review category decreased, while the Release Time of Cargo Examination category increased.

The release times of Sea Cargo under Stage 1 procedures in the Free of Paper and Cargo Examination category and Paper Review category decreased, but the release time of the Cargo Examination category increased. The release times of Sea Cargo for all three categories were reduced.

The release times of Sea Cargo under Stage 2 procedures for the three categories were significantly reduced. However, for air cargo only the release times for the Free of Paper and Cargo Examination category and the Paper Review category were reduced. The release time for the Cargo Examination category had actually increased. The release time for the Cargo Examination category before the implementation of AEO MRA was 1 day 8 hours 9 minutes and 43.7 seconds, but increased to 2 days 10 hours 1 minute and 58.9 seconds following MRA implementation. This also requires further examination to understand the reason behind this increase. One possible reason may be that, as there were only three declarations assigned in the Cargo Examination category, any significant increase for declarations due to unexpected reasons outside of the scope of customs supervision may delay the delivery of goods and subsequently make the average release time longer than expected.

Table 5 shows the release times and Rates of Change of Chinese Taipei's imports from Korea in three categories before and after the Chinese Taipei-Korea AEO MRA was implemented. For Sea Cargo, there were no records of filed declarations after the MRA. For air cargo, the release times of the three categories under Stage 1 and Stage 2 procedures after the MRA implementation were either reduced or showed no records of declarations. However, as the average release time of Stage 2 procedures may be affected by reasons outside customs supervision, it would require further study to understand the different results between Stage 1 and Stage 2 procedures. Due to the very limited number of release time cases under Stage 2 procedures, the analysis provided here only serves as complementary findings to the Stage 1 procedures.

Table 5 Release Times and Rates of Change of Chinese Taipei's Imports from Japan under the Chinese Taipei-Japan AEO MRA (Details)

	Before the Entry into Force of AEO MRA (2018.10.12~2019.05.21)				After the Entry into Force of AEO MRA (2019.05.22~2019.12.31)				Rate of Change (%)
	Free Paper& Cargo Examination	Document Review	Cargo Examination	Ave.	Free Paper& Cargo Examination	Document Review	Cargo Examination	Ave.	
Stage 1									
Sea Cargo	0 days 6 hours 9 min. 9.8 sec.	0 days 20 hours 41 min. 1.9 sec.	1 days 12 hours 52 min. 26.7 sec.	0 days 12 hours 17 min. 26.3 sec.	0 days 5 hours 48 min. 56.7 sec.	0 days 9 hours 54 min. 22.7 sec.	1 days 13 hours 21 min. 53.3 sec.	0 days 8 hours 19 min. 26.9 sec.	-32.27
Air Cargo	0 days 0 hours 11 min. 50.1 sec.	0 days 11 hours 4 min. 19.9 sec.	0 days 19 hours 23 min. 32.6 sec.	0 days 0 hours 47min. 52.5 sec.	0 days 0 hours 6 min. 58.8 sec.	0 days 10 hours 45 min. 5.5 sec.	0 days 6 hours 43 min. 45.9 sec.	0 days 0 hours 34 min. 1.4 sec.	-28.93
Stage 2									
Sea Cargo	5 days 18 hours 34 min. 12.6 sec.	7 days 6 hours 25 min. 10.1 sec.	5 days 21 hours 58 min. 16.6 sec.	6 days 9 hours 27 min. 21.8 sec.	2 days 23 hours 43 min. 4.2 sec.	3 days 11 hours 26 min. 42.4 sec.	2 days 18 hours 55 min. 23.6 sec.	3 days 6 hours 21 min. 53.8 sec.	-48.93
Air Cargo	1 days 5 hours 21 min. 40.6 sec.	2 days 1 hours 23 min. 53.2 sec.	1 days 8 hours 9 min. 43.7 sec.	1 days 6 hours 26 min. 42.1 sec.	1 days 13 hours 2 min. 41.6 sec.	2 days 3 hours 7 min. 21 sec.	2 days 10 hours 1 min. 58.9 sec.	1 days 13 hours 48 min. 43.9 sec.	24.2

Table 6 Release Times and Rates of Change of Chinese Taipei's Imports from Korea under the Chinese Taipei-Korea AEO MRA (Details)

	Before the Entry into Force of AEO MRA (2018.10.12~2019.05.21)				After the Entry into Force of AEO MRA (2019.05.22~2019.12.31)				Rate of Change (%)
	Free Paper& Cargo Examination	Document Review	Cargo Examination	Ave.	Free Paper& Cargo Examination	Document Review	Cargo Examination	Ave.	
Stage 1									
Sea Cargo	0 days 14 hours 17 min. 48.2 sec.	0 days 20 hours 57 min. 32.1 sec.	1 days 22 hours 20 min. 47.3 sec.	0 days 17 hours 54 min. 53 sec.	No Record	No Record	No Record	No Record	-
Air Cargo	0 days 0 hours 6 min. 46.8 sec.	0 days 13 hours 47 min. 3.1 sec.	0 days 17 hours 59 min. 50.4 sec.	0 days 0 hours 45 min. 30 sec.	0 days 0 hours 0 min. 37.0 sec.	No Record	0 days 15 hours 8 min. 49 sec.	0 days 0 hours 27 min. 19.7 sec.	-39.94
Stage 2									
Sea Cargo	5 days 23 hours 18 min. 28.3 sec.	5 days 15 hours 34 min. 55.6 sec.	7 days 19 hours 45 min. 48.2 sec.	5 days 22 hours 48 min. 24 sec.	No Record	No Record	No Record	No Record	-
Air Cargo	2 days 11 hours 20 min. 31.4 sec.	3 days 5 hours 29 min. 31.7 sec.	5 days 3 hours 3 min. 12.52 sec.	2 days 12 hours 27 min. 33 sec.	1 days 20 hours 52 min. 9.6 sec.	No Record	2 days 18 hours 48 min. 51 sec.	1 days 22 hours 0 min. 3 sec.	-23.91

v. The Changes in Proportions of Cargo Declarations of Clearance Modes under AEO MRAs

The customs data provided by Chinese Taipei also show changes of numbers of import declarations before and after implementation of the AEO MRAs. This study excludes cases with zero or minimal declarations (from Korea and Australia) and analyzes the change of import declaration numbers from Japan under Stage 1 procedures before and after implementation of the Chinese Taipei-Japan AEO MRA, and finds some significant changes.

It should be noted that, as the MRA entered into force on May 22, 2019 (customs data collected during 05/22/2019~12/31/2019), numbers of cargo declarations after the MRA was implemented were comparably small due to it was a new arrangement to AEO-certified companies in Chinese Taipei and Japan. Therefore, the research team of this study observes the proportion of the three clearance modes in total numbers of cargo declarations before and after the MRA implementation and make comparisons.

For sea cargo declarations, the percentages of Free of Paper and Cargo Examination, Paper Review, and Cargo Examination categories before the MRA was implemented were 61.0 percent, 36.2 percent and 2.9 percent of the total declarations respectively. After MRA implementation, the percentages of the three categories were 45.1 percent, 54.5 percent, and 0.3 percent respectively. It is notable that the percentage of declaration number in the Cargo Examination category was reduced from 2.9 percent to 0.3 percent. This suggests the MRA might have benefitted AEO companies by moving some cargo declarations from Cargo Examination category to either Paper Review category or Free of Paper and Cargo Examination category due to facilitation granted under the MRA.

For air cargo, similar changes can also be observed. The percentages of Free of Paper and Cargo Examination, Paper Review, and Cargo Examination categories before MRA implementation were 95.0 percent, 4.2 percent and 0.8 percent respectively. After the MRA was implemented, they were 95.8 percent, 4.1 percent, and 0.1 percent respectively. Similarly, the percentage of declaration number in the Cargo Examination category was reduced from 0.8 percent to 0.1 percent, meaning only 0.1 percent of all cargo declarations were designated in the Cargo Examination category, while 99.9 percent of cargo declarations were moved to either Free of Paper and Cargo Examination category or Paper Review category.

The changes in proportions of the declarations of the three clearance modes and in particular the significant reduction of declarations of the Cargo Examination category after MRA implementation of both sea cargo and air cargo suggest important benefits an AEO MRA may provide to AEO companies. APEC may consider conducting further case studies to support Chinese Taipei’s findings.

2. Japan

Japan provided cases of Stage 1 procedures under the Chinese Taipei-Japan AEO MRA. Before the signing and implementation of the bilateral MRA in May 2019, the average release time of Sea Cargo from Chinese Taipei to Japan was 22 minutes and 45 seconds. There were no records of filed declarations from Chinese Taipei after the MRA was implemented. Before the MRA was implemented, the average release time of Air Cargo from Chinese Taipei was 10 minutes and 27 seconds. This was reduced to 0 minutes 0 seconds, as AEO operators were granted immediate approval for clearance directly from the computer system, without the need to submit papers or require paper or cargo examination. In such cases, the improvement was the most significant.

Table 7 shows the Release Times of Japanese imports of Sea Cargo and Air Cargo under Stage 1 procedures from Chinese Taipei.

Table 7 Release Times and Rates of Change of Japan’s Imports from Chinese Taipei under the Chinese Taipei-Japan AEO MRA

Japan		Before the Entry into Force of AEO MRA (2018.12.22~2019.05.21)	After the Entry into Force of AEO MRA (2019.05.22~2019.10.21)	Rate of Change (%)
Stage 1:	Sea Cargo	0 days 0 hours 22 min. 45 sec.	No records	-
	Air Cargo	0 days 0 hours 10 min. 27 sec.	0 days 0 hours 0 min. 0 sec.	-100%

3. Korea

Korea provided cases of Stage 1 procedures under the Chinese Taipei-Korea AEO MRA which entered into force in October 2016. The customs data provided by Korea in these cases further divided cargo declarations into three categories based on different clearance modes. Before the signing and implementation of the AEO MRA,

the average release times of Sea Cargo from Chinese Taipei in the Free of Paper and Cargo Examination category was 6.04 hours; the average release time of Sea Cargo in the Paper Review category was 6.89 hours; and the average release time of Sea Cargo in the Cargo Examination category was 29.97 hours. The average release time of the Stage 1 procedures (three categories included) provided by Korea was 6.97 hours. After the implementation of the MRA, the average release time of Sea Cargo from Chinese Taipei was also divided into three categories. The average release time of the Free of Paper and Cargo Examination category was reduced to 1.11 hours. There were no records of filed declarations in the Paper Review category and the Cargo Examination category. The rate of change provided by Korea (only for the Free of Paper and Cargo Examination category) was 83.6 percent.

The customs data for Air Cargo also divided release times into three different categories. Before the MRA was implemented, the average release time of Air Cargo for the Free of Paper and Cargo Examination category was 7.21 hours; the average release time for the Paper Review category and the Cargo Examination category were 13.79 hours and 27.34 hours, respectively. After the MRA was implemented, the average release time in the Free of Paper and Cargo Examination category was reduced to 0.357 hours; the average release time in the Paper Review category was reduced to 1.386 hours. There were no records of filed declarations in the Cargo Examination category. The average release time under Stage 1 procedures provided by Korea was 0.390 hours, showing a significant decrease of 95.1 percent.

Table 8 shows the Release Times of Korean imports of sea cargo and air cargo from Chinese Taipei under Stage 1 procedures.

Table 8 Release Times and Rates of Change of Korea's Imports from Chinese Taipei under the Chinese Taipei-Korea AEO MRA (Details)

	Before the Entry into Force of AEO MRA (2015.10.01~2016.09.30)				After the Entry into Force of AEO MRA (2016.10.01~2017.09.30)				Rate of Change (%)
	Free Paper & Cargo Examination	Document Review	Cargo Examination	Ave	Free Paper & Cargo Examination	Document Review	Cargo Examination	Ave	
Sea Cargo	6.04	8.69	27.97	6.79	1.11	-	-	1.11	-83.6%
Air Cargo	7.21	13.79	27.34	8.08	0.357	1.386	-	0.390	-95.1%

4. New Zealand

New Zealand and Hong Kong, China signed and implemented an AEO MRA in February 2019, which was one of New Zealand’s most recently implemented AEO MRAs. New Zealand provided cases of its imports of sea cargo from Hong Kong, China under Stage 1 customs procedures before and after the MRA was implemented. The case study did not include customs data for Air Cargo as New Zealand had just implemented AEO status for Air Cargo in December 2019, and hence did not have sufficient data for the study.

According to the description of the customs data, before the MRA was implemented, the average release time of Sea Cargo from Hong Kong, China was 0 minute and 25 seconds. After the implementation of the MRA, the average release time was reduced to 0 minute 1 second, a reduction of 96 percent. There were no data on the release times of Air Cargo.

Table 9 shows the Release Times and Rates of Change of imports of Sea Cargo under Stage 1 procedures.

Table 9 Release Times and Rates of Change of New Zealand’s Imports under AEO MRA with Hong Kong, China

	Types of Imports⁽⁴⁾	Before Entry into Force of AEO MRA (2018.09.05-2019.02.19)	After Entry into Force AEO MRA (2019/03/08-2019/09/24)	Rate of Change (%)
Stage 1	Sea Cargo	0 days 0 hours 0 min. 25 sec	0 days 0 hours 0 min. 1 sec.	-96%
	Air Cargo	Not available	Not available	-

IV. Main Findings and Potential Areas for Further Exploration by APEC

This study examined the customs release time changes from AEO MRAs between APEC Member Economies by comparing the average customs release times for declarations before and after the implementation of relevant AEO MRAs. It aimed to identify whether and how release times are reduced and focuses mainly on the analysis of the customs clearance procedures fully under customs authorities' supervision (referred to as Stage 1 procedures), and also provides complementary information on certain cases of the customs clearance procedures that were only partially under customs authorities' supervision (referred to as Stage 2 procedures). All customs data covered sea cargo and air cargo.

Four Member Economies – Chinese Taipei; Japan; Korea; and New Zealand - provided their release time cases under Stage 1 customs procedures. The case analysis of Stage 1 procedures shows that customs release times after implementation of the AEO MRAs were reduced in all cases, if excluding the cases without records of filed import declarations during the survey periods. The rates of change/improvement varied in different cases. Except for only one case where the rate of change was less than 30 percent, all other cases under Stage 1 customs procedures had rates of change of more than 30 percent. The rates of change for a few cases were as high as 80 or 90 percent. In one case there was a full reduction of release time to 0 second.

A further comparison reveals different results of cases of sea cargo and air cargo under Stage 1 procedures. In some cases, a more significant reduction of release time was observed in sea cargo declarations compared to air cargo declarations, while in others, the results were the other way round. More in-depth research would be required to understand whether AEO MRAs deliver different results in the clearance times for sea cargo and air cargo declarations and to identify the reasons for any differences. Different policy designs may also be needed to provide and improve the benefits to sea cargo and air cargo declarations for AEO enterprises.

As Chinese Taipei was the only participating Member Economy to also provide customs data under Stage 2 procedures, this study also analyzed these Stage 2 data, aiming to provide some complementary information to the analysis of Stage 1 cases.

The study finds that the cases under Stage 2 procedures also show a reduction of the average release times for both sea cargo and air cargo for most of the cases after the AEO MRAs were implemented. However, two cases showed an increase of average release time for sea cargo or air cargo after the implementation of the MRAs. Further study and surveys on release time cases would be needed to understand the different results of cases under Stage 2 procedures.

It is also important to note that on the one hand, the number of cargo declarations filed may directly affect the average release time especially if there are cases with unusual lengths of release times. On the other hand, as the Stage 2 procedures include procedures outside customs authorities' supervision, such as the periods of goods arrival and delivery, there may be unexpected factors during these periods that may have significantly affected the release times. These factors may need to be taken into consideration when examining the procedures of Stage 1 and Stage 2.

The release time cases provided by Chinese Taipei and Korea further divided release times into three categories based on different clearance modes: Free of Paper and Cargo Examination, Paper Review, and Cargo Examination. The study finds that the average release times of Sea Cargo and Air Cargo designated in the three categories showed reductions after the implementation of the AEO MRAs in most cases.

Last but not least, this study compares the numbers of the cargo declarations in the different categories before and after an AEO MRA, and finds that the proportion of filed declarations after the implementation of the AEO MRA increased in the Free of Paper and Cargo Examination or the Paper Review category, while the proportions effectively decreased in the Cargo Examination category. In some cases, 99.9 percent of cargo declarations were moved to either Free of Paper and Cargo Examination category or Paper Review category, leaving only 0.1 percent of cargo declarations designated in the Cargo Examination category. The changes in proportions of the declarations of the clearance modes, namely the significant reduction of declarations of the Cargo Examination category suggest important benefits an AEO MRA may provide to AEO companies.

To better understand if AEO-certified SMEs do take advantage of the AEO programs and AEO MRAs, the research team also conducted interviews with

AEO-certified SMEs in Chinese Taipei in March, 2020. According to the interviews, some SMEs agreed that the AEO programs and AEO MRAs could bring significant benefits by reducing customs clearance times. The promotion of the benefits of AEO MRAs and government-to-business communications on the AEO concept, including awareness-raising activities and training programs, were important factors that SMEs in Chinese Taipei identified in deciding to apply for AEO certifications. For some SMEs, the main reason was the request of the US clients who demanded all of the overseas suppliers in the supply chains apply for AEO certification.

As these SMEs correctly pointed out, the demand-driven approach may give strong momentum for members of the supply chains to apply for AEO Status and for governments to seek AEO MRAs. It is a potential area for APEC to consider future work in promoting AEO concept and AEO MRAs. It is also important to note that all of the SMEs interviewed suggested for the government to endeavor to sign and implement the AEO MRAs with their major and potential markets, including both APEC Member Economies and Non Member Economies. The SMEs believed that AEO MRAs, especially those with less developed economies where customs procedures were still regarded to be burdensome or less efficient to economic operators, may bring significant benefits. Some SMEs also shared their concerns over the COVID-19 pandemic and its negative implications on international trade flows and customs operations in the post pandemic world.

V. Conclusions and Proposed Policy Recommendations

The purpose of this study is to support the systematic design, implementation, monitoring, and customs-to-business communications for AEO programs and AEO MRAs, so as to continue the improvement of AEO benefits to the business sector, in particular to SMEs across the APEC region. By conducting this quantitative survey and empirical case study, the AEO MRAs in four participating Member Economies were described in a better structured manner.

The study finds that for all of the submitted cases, customs release times were effectively reduced for imports of both Sea Cargo and Air Cargo under Stage 1 procedures after the participating Member Economies implemented the relevant AEO MRAs. The percentage change ranged from less than 30 percent to around 80 percent to even complete reduction of customs release time. As complementary to case analysis of Stage 1 procedures, the average release times under Stage 2 procedures

were also reduced in most cases, showing positive effects of the AEO MRAs in customs clearance procedures.

In some cases, the reduction of clearance times after the implementation of the relevant AEO MRAs was not phenomenal, of only seconds in some cases. The reason for this may be that in normal customs procedures, especially for Air Cargo, the customs clearance procedures of the participating Member Economies were already minimized before the AEO MRAs were implemented, thanks to the continued work in trade facilitation and application of modern technologies. Thus, the benefits of reduced release times would be more important to AEO companies in Member Economies or other regions where customs clearance procedures are still considered burdensome, expensive or less transparent.

The research team also conducted interviews with AEO-certified SMEs in Chinese Taipei on their experiences and views of the AEO MRAs. Some SMEs agreed that the AEO programs and AEO MRAs could bring significant benefits by reducing customs clearance times. Some pointed out a rising trend of demand-side requests from their clients to participate in the AEO programs. Furthermore, since the beginning of 2020, the outbreak of the novel coronavirus (COVID-19) has changed people's daily lives and commercial activities, too. The continued global trade and smooth flow of goods across borders will be a key to supporting a strong economic recovery in the post pandemic world. Though there remains much to be explored on how the global pandemic would change the international trade flow and customs operations, it is understood that all future AEO programs, benefits, AEO MRAs, among others, will need to be designed and implemented as part of a new supply chain security system in the post pandemic era. The AEO programs and AEO MRAs have proved their functions of maintaining supply chain security, which has successfully balanced the need for trade facilitation in most parts of the world. Customs authorities in APEC Member Economies need to continue to promote the AEO programs and AEO MRAs in the changing global context and find new direction for APEC Member Economies in the future.

This study proposes the following policy recommendations for APEC and interested APEC Member Economies to consider:

1. The 2-year project of the "AEOs in APEC Economies" conducted jointly by Chile and Chinese Taipei, including its separate studies, has provided important

empirical findings that AEO MRAs between APEC Member Economies have provided significant benefits by reducing customs clearance times after implementation of the related AEO MRAs. To move work forward based on these quantitative findings, APEC and interested Member Economies should encourage more in-depth, focused and quantitative research and surveys of various important aspects of issues related to the design and implementation of AEO programs and AEO MRAs to support APEC's work on supply chains security and trade facilitation.

2. This study is based on the release time cases provided by Chinese Taipei; Japan; Korea; and New Zealand and shows significant reduction of customs release time after implementation of relevant AEO MRAs. However, all four of these economies are highly exported-oriented Asian Pacific island economies. There may be more and perhaps different findings in release times in cases from continental or land-locked economies. Therefore, APEC may encourage Member Economies to create and develop different methodologies or approaches to provide more comprehensive information on the AEO programs and AEO MRAs to address their common or varied experiences, interests and concerns.
3. According to the interviews with AEO-certified SMEs in Chinese Taipei, some SMEs agreed their AEO Status brought benefits. To them, the promotion of the AEO concept and its benefits, and requests from clients or importers were important factors that helped them decide to apply for AEO certification. APEC may consider producing AEO promotional toolkits on its website for the business sector, in particular SMEs, and relevant government agencies. APEC should also elaborate on the issues of the "demand-driven" trends (requests by importers/clients for exporters/suppliers to apply for AEO certification) in supply chains to understand their implications to AEO programs and AEO MRAs in APEC region.
4. The COVID-19 pandemic has changed international trade flows and the concept of supply chain resilience and security, a result of supply chain disruptions since the beginning of 2020. The emerging need for more resilient and sustainable supply chain management and customs authorities' functions in the new trade context will be an area soon be tackled by APEC Member Economies. This may bring significant implications for APEC's work promoting AEO programs and

AEO MRAs in the post pandemic period. APEC should be prepared for such changes and launch relevant discussions and possible work plans.

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