

PKD Board Annual Report 2022

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PKD Board Discussion Paper

Forwarded by: 2022 Chairperson

Reference Document(s): B-Pub/67 - PKD Board Annual Report 2021 dated 19.04.2022

BACKGROUND

The MoU, Attachment C, paragraph 1.2 states the following:

"1.2 The PKD Board is the standing body responsible for the ICAO PKD. Its duties will include:

...

j) submit to the Participants an Annual Report on its activities and other relevant issues in the preceding year on or before 31 October;"

PURPOSE

This Discussion Paper is intended to fulfil the MoU requirement.

URGENCY

This report should be considered by the Board through written procedure in order to allow for publication on the ICAO public website in a timely manner.

PROPOSAL**PKD Board Annual Report 2022****Purpose**

Based on, and in continuation of the previous PKD Board Annual Reports, the present Annual Report gives an overview of the development of the PKD as well as important activities of the PKD Board in the year 2022.

1. PKD Organization – PKD Board, Executive Body Meetings**a) PKD Board**

The 29th meeting of the PKD Board took place in Kampala, Uganda on 16 and 17 November 2022. The meeting was held in a hybrid format to encourage larger participation. A variety of organizational, technical and financial matters were discussed and decisions made regarding update of PKD services, application of user fees, possible adjustment of operator fees and enhancement of capacity building efforts. A technical workshop was organized alongside the Board meeting on 15 November 2022.

During the meeting, it was agreed that Mr. Mario Wiesen (Luxembourg) would be the 2023 PKD Board Chairperson and that Mr. Cor de Jonge (Netherlands) would be the 2023 PKD Board Vice-Chairperson.

Representatives of Nigeria, Switzerland and Uganda were elected by a secret ballot and nominated by the Board to occupy the three vacancies arising from the ending of Board terms. The ICAO Council approved this proposal on 14 December 2022.

b) Executive Body

The group convened in Paris, France from 3-5 May 2022 and in Montreal, Canada on 16 September 2022. It considered updates on the progress of the PKD private sector use pilot, developed planning for work towards a new PKD operations contract, finalized the PKD strategy 2023-2025 for presentation to the Board and worked on evolution of the PKD Data Quality Coach programme along with other capacity-building initiatives. It also advised on final preparations for the PKD Board meeting and workshop.

Following the passing of the representative of New Zealand on the Executive Body, Mr. David Philp, in November 2021, a new Executive member, Mr. Justin Rowlands, also of New Zealand, was elected by acclamation for a two-year term until November 2024 at the PKD Board meeting.

2. PKD Administration

a) Membership Fees

The fees for 2022 were approved by the PKD Board to consist of an ICAO fee of US\$ 7,096.25 and an operator fee of US \$18,000, thus totaling US\$ 25,096.25 (compared to US\$ 26,282 in 2021). The annual fee decreased in 2022 relative to previous years based on cost sharing amongst an increased number of members compared to previously. As per the PKD operational contract signed in April 2016, the PKD operator fee decreases as the number of PKD participants increases and such participants become active. The Board decided to maintain the operator fee schedule as previously set out despite recognition of the increasing costs being encountered by the operator, as raised by them during the 29th meeting of the Board. Therefore the operator fee schedule remains as per Table 1. In 2022, the operator fee decreased from US\$ 19,250 to US\$ 18,000.

55 Participants	USD 24 500
60 Participants	USD 22 500
65 Participants	USD 20 900
70 Participants	USD 19 250
75 Participants	USD 18 000

Table 1. Operator fees for the ICAO PKD system relative to the number of active PKD participants

3. Technology, System Maintenance and Evolution

Three short incidents of downtime occurred in 2022, all due to electrical power issues in the ICAO data centre. All were quickly addressed and remedies for the power issues were implemented. Each had no practical impact on operations for PKD participants.

a) Full system renewal

All ICAO PKD hardware was renewed across all sites through 2022 as part of a complete system refresh intended to provide for assurance of high quality service delivery and operational and business continuity. Fully renewed systems went live in Montreal and Berlin on May 25 2022 and in Abu Dhabi on August 15 2022, all incorporating upgrades made as part of regular system maintenance. Operations continued seamlessly throughout the whole renewal period.

b) Change Request to include Barcode Signer Certificates

At its 29th meeting, the PKD Board approved the implementation of the changes necessary to include Barcode Signer Certificates (BCSCs) in the PKD. BCSCs are the signing certificates for ICAO Visible Digital Seals (VDS), as specified in ICAO Doc9303 Part 13, and for Visible Digital Seals for non-constrained Environments (VDS-NC) specified in a dedicated ICAO Technical Report. The primary distribution mechanism for BCSCs mentioned in Doc9303 is the ICAO PKD. Notwithstanding, the PKD was not technically developed to facilitate this hitherto. This change, to be implemented through 2023, will address this discrepancy. The costs of implementation will be covered by the existing surplus in the PKD Development and Implementation Fund, meaning that there should be no increase in participant fees in 2023 and beyond attributable to this change.

c) ICAO CSCA Master List

The ICAO CSCA Master List, first published in March 2020, continued to grow through 2022. Sixteen key import ceremonies were completed in 2022, ten of which involved in-person deposit by a representative in Montreal. The Master List available online and through the ICAO PKD at the end of 2022 contained 696 certificates from 70 different document-issuing entities.

d) ICAO Health Master List

The ICAO Health Master List, first made available on the ICAO PKD website in January 2022, provides the public key certificates required for electronic verification of digital health proofs (i.e. digital certificates of vaccination, testing and/or recovery) presented during travel. It is made available free of charge to the international community (both issuers and verifiers) as a Global Public Good, intended to support aviation's recovery from the COVID-19 pandemic and ensure its future resilience.

The Health Master List is made available based on an innovative partnership with Luxembourg's INCERT State Agency. INCERT provides the hardware, infrastructure and software for ICAO's maintenance of the Health Master List. Based on the continued importance of the Health Master List as a component of ecosystem resilience, INCERT offered to continue its operation of services necessary to maintain and develop the List for the coming years at the 29th Board meeting. The Board gratefully accepted this offer. As a result, the Health Master List remains open for development and use. All issuers of digital health proofs are invited to liaise with the ICAO PKD office in order to include associated public key certificates in the Master List. There are no restrictions on the format of the associated health proof.

e) Private sector use of PKD data

The pilot on private use of PKD data, launched in May 2021, continued through 2022. Fifteen companies were participating in the pilot as of December 2022 while 5 more have

completed the associated legal agreement and are waiting for counter-signature by the ICAO Secretary General as necessary to finalize participation. All participants have authorization to use data from the PKD – the masterlists and data obtained from the public download site – within their own solutions, products and projects. The authorization agreements signed by all parties and by ICAO explicitly authorizes such use, absolving them of the requirement to comply with the commercial use clauses of the Terms and Conditions noted on the download pages.

The 15 companies participating as of December 2022 all received a survey enquiring as to their experiences. The pilot demonstrated clear demand for permission to use PKD data amongst companies, particularly amongst technology companies across a variety of fields. Participants also expressed openness to some payment being involved for use and emphasized the importance of reputational benefits. The PKD Board, in discussions on the pilot, also noted a clear lack of negative impacts on PKD business. On the basis of these conclusions, the PKD Board has requested the Secretariat to move the private sector use initiative forward through the following steps:

1. The ICAO Secretariat will engage its Legal and External Affairs Bureau to prepare all necessary texts/instruments for a future licensing agreement for use of PKD data.
2. The PKD Executive Body will engage the operator around implementation of Change Request 7 to the operational contract and make a proposal to the Board regarding annual fees for private sector entities.
3. Free-of-charge pilot participation will be offered on a continuous basis beyond March 2023 (the expiry date of all arrangements as of 31 December 2022) until such time as a structured permanent approach is outlined and agreed.

e) **Participation / PKD Usage**

In the course of 2022, eight new PKD Participants were welcomed. Specifically, Bahrain, Belize, Cameroon, Iraq, Kenya, Saudi Arabia, Vanuatu and Zimbabwe joined the PKD.

Together with Australia, New Zealand, the United States, Canada, the United Kingdom, Japan, Singapore, Germany, Republic of Korea, France, China, Kazakhstan, India, Nigeria, Switzerland, Ukraine, Latvia, the Czech Republic, Macao/China, the United Arab Emirates, Hong Kong/China, Slovakia, the Netherlands, Morocco, Austria, Hungary, Norway, Bulgaria, Luxembourg, Sweden, United Nations, Spain, the Russian Federation, Malaysia, Argentina, Thailand, Ireland, Moldova, Belgium, Brazil, Qatar, Seychelles, Uzbekistan, Philippines, Iran, Colombia, Romania, Finland, Benin, Botswana, Kuwait, Georgia, Turkey, Iceland, Oman, Turkmenistan, Peru, Barbados, Panama, the European Union, Mali, Cote d'Ivoire, Serbia, Belarus, Bosnia and Herzegovina, Croatia, Egypt, Indonesia, Italy, the United Republic of Tanzania, Uganda, Bangladesh, Togo, Ecuador, Rwanda, Sudan, Lesotho, Mexico, Ghana, Nepal, Viet Nam and Mongolia there were 90 PKD Participants at the end of 2022.

The contents of the PKD also continuously grow as participants continue to upload their relevant data. Table 2 shows PKD contents in the final three months of 2022.

	Certificates	CRLs	CSCA Master Lists
October 2022	18 320	52	19

November 2022	18 651	52	19
December 2022	18 765	53	19

Table 2. Contents of the PKD repository at the end of 2022

f) Capacity Building

As alluded to above, the PKD Board hosted a PKD workshop alongside its meeting in Uganda. The event took place on 15 November 2022 and brought together more than 80 participants from the host State, its neighbours (from both PKD participants and States interested in participating in the near future) and the PKD community. The workshop included several introductory presentations on embedding use of the PKD across State bodies and included presentations from recent participants around their progress and challenges encountered. New or intending participants were provided access to a breakout session focussed on organizational and administrative matters and had the chance to discuss their efforts with experience participants. A representative of the Netherlands, meanwhile, provided a deep dive into technical setups to make full use of the PKD and its data and developed a course manual that participants took back for continued study and support in their work. The Netherlands also made available some open source software for Master List processing that it had prepared to all participants. Based on the success of the event, the Board hopes to organize similar events alongside Board meetings in the future.

Mongolia was the first recipient of the ICAO PKD Data Quality coaching program. The selected coach from Luxembourg began working with Mongolian experts in December 2021 for a 12 month period. Throughout the year, experts from the Agency have been engaged in near weekly calls with the Mongolian colleagues, providing extensive support. Three Agency experts visited Mongolia in June 2022. Based on the positive outcomes of this work and a request from Mongolia for continued support, the PKD Board approved an extension of the arrangement with Mongolia for another 12 month period through 2023.

Uganda, who has recently become a participant, will also benefit from the programme in 2023 working with a coach from the UK. The participation of Barbados and Cameroon has also been preliminarily approved.

The Secretariat continues to be open to receiving further requests from interested States. A new call for coaches and for participating countries was launched in early 2023.

ICAO completed a project, supported by the Government of Canada, to develop a cost-benefit analysis tool for Automated Border Control in 2022. The tool was developed with the Central America and Caribbean region in mind but should be widely applicable internationally. As usage of public key certificates is an important enabler of usage of ABC systems, increased rollout of PKD systems in a prudent and evidence-based manner, as can be facilitated through use of the tool, may lead to increased interest in participation in the PKD in the coming years.

f) PKD Strategy 2023-2025

The PKD Executive Body was given the mandate to finalize a multi-annual PKD Strategy by the Board in 2021. A new Strategy for the period 2023-2025 was thus prepared by the Body, led by Canada, and tabled to the 29th Board meeting. It is accompanied by a concrete Roadmap of implementation activities. The Board endorsed

both documents, setting the foundations for system development and evolution in the coming period. The Strategy is built on four complementary pillars:

1. Build the offering in terms of Usability and Service
2. Ensure that the PKD can support future development of globally interoperable solutions
3. Grow participation amongst all who can benefit from the PKD, including governments & private sector entities
4. Ensure proper use of the PKD by all participants in a complete and timely manner

It has set direction for work in the coming period and will provide for cohesive and coordinated consideration of proposed initiatives by the Board and participants in the coming years.

4. Promotional activities

The Secretariat and PKD community provided a number of presentations and raised awareness of the PKD and its relevance across a number of events in 2022. The Chairperson of the Board and the Secretariat delivered a joint presentation at the ICAO TRIP symposium. The Secretariat itself organized an informal briefing to ICAO Council in January 2022 focussed particularly on the private sector pilot, coordinated recording of 3 PKD-related Skytalks alongside the 41st ICAO Assembly and delivered numerous presentations online, including at Identity India, the Road to BMIC event, an ID4Africa meeting and the eu-LISA industry roundtable. The PKD Officer spoke about the PKD in a wider context of eMRTDs and travel at the Biometrics Institute Identity at Borders seminar and at the OSCE High Level Meeting on Safe International Travel. These efforts were complemented by those of the Chair, Deputy Chair and other PKD experts who participated in various events to speak about the PKD and its activities. The PKD Chair and Vice Chair both represented the PKD at events in London, for example.

Through 2022, ICAO were funded and supported by Immigration, Refugees and Citizenship Canada (IRCC) for two projects run in the Central American and Caribbean region, both with strong links to the PKD. ICAO and IRCC organized a virtual seminar for the region with strong focus on PKD while a new ABC Cost Benefit Analysis tool for use in the region was developed, each giving impetus to PKD participation in the region and the opportunity to present PKD in the wider context of eMRTD issuance and border management. Based on this funding, the PKD Officer also presented the PKD and related developments at the Powering Digital Borders event in Montego Bay, Jamaica.

Conclusion

The ICAO Public Key Directory continued to advance through 2022, with more countries choosing to participate in the system and gaining increasing benefits based on the provision of new services and the availability of comprehensive capacity building to support their optimal use of the system.

The Chairperson would like to acknowledge all the work provided by the secretariat over the last year and to encourage the participation of 2 persons from the secretariat at the annual Board meetings as it is nearly impossible for one person alone to manage the logistics of the meeting while taking notes, especially in a hybrid format where one person needs to keep a permanent watch over the online session in order not to miss any questions or speaking requests. This is ever so more important as the number of participants in these meetings is growing very rapidly.

The Chairperson and the Board look forward to continued enhancement of service provided to participants through the PKD and further enlargement of an active PKD community in the coming years.

Mr. Mario Wiesen
2022 Chairperson
(on behalf of the ICAO PKD Board)

16 February 2023
