



THE STATE OF INCLUSIVE INSTANT PAYMENT SYSTEMS IN AFRICA

SIIPS 2023 • CASE STUDY

RWANDA: eKASH



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Origin story



Challenge

The payment ecosystem in Rwanda was previously characterized by low levels of interoperability for retail payment transactions. Mobile money operators (MMOs) and banks had developed bilateral relationships, enabling some limited interoperability, but retail transfers between different banks were not possible (National Bank of Rwanda 2018). The bilateral arrangements were not up to international payment system standards and ill-equipped to handle increasing digital traffic. As a result, the industry faced increased risks of failure and inefficiencies (National Bank of Rwanda 2020).



Adding value

Given that half of the adult population did not use digital payments, the National Bank of Rwanda (BNR) wanted to catalyze ongoing maturation toward digital payments and away from cash. It created the National Payment System Framework and Strategy 2018 to 2024—referred to as the ‘payment strategy’—with the goal of achieving a cashless economy by promoting digital payments.

The BNR and the payments industry are intent on promoting all-to-all interoperability of retail payments to

enhance efficiency and improve the customer experience (National Bank of Rwanda 2020). The payment strategy functions as the cornerstone of Rwanda’s payment system modernization and the implementation of an interoperable retail payment system.

The initial realization of that vision came to fruition with the launch of eKash in 2022. A cooperation between the national switch, RSwitch, the BNR, and the private sector, eKash aims to empower a cashless and inclusive economy through a safe, robust, interoperable, and efficient payment system that will benefit various stakeholders. RSwitch expects the IPS will enhance the end-user experience of digital payments and decrease cash usage. The system will also enable the government to better monitor transaction flows and financial inclusion goals.



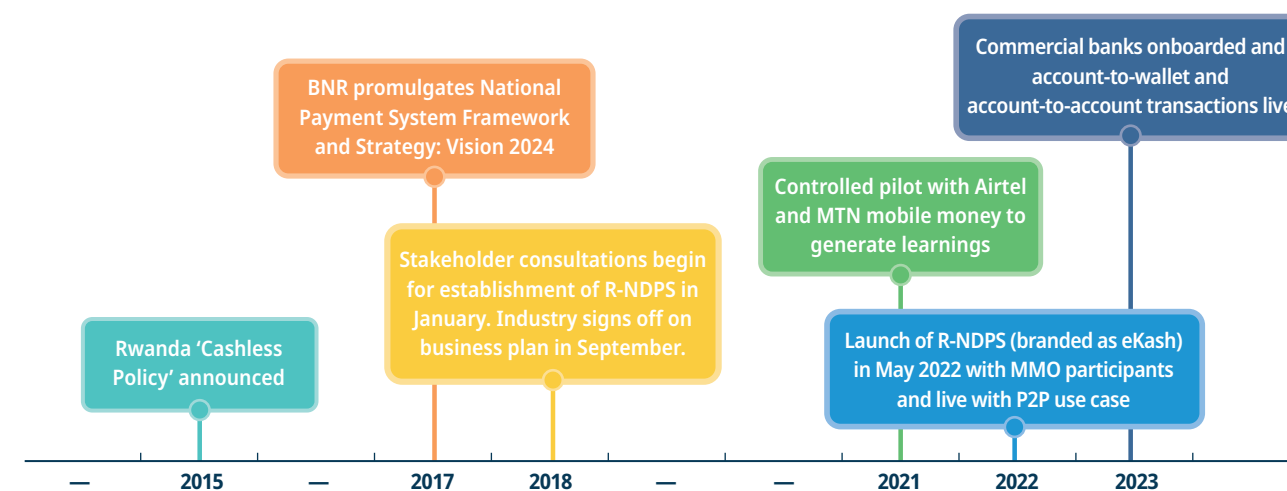
The IPS Timeline

Creating a national payment policy was essential to the creation of an interoperable payment landscape. The BNR and Rwandan government were motivated to establish a payment strategy that could serve an efficient cashless economy centered around robust, modern, and inclusive payment systems. A pivotal aspect of BNR’s strategy was to achieve interoperability among payment service providers (PSPs) as opposed to the existing bilateral set-ups. The policy also aimed to ensure a financially included population through enhanced monitoring of access to and use of digital funds.

Industry approval during the development of the national policy and the resulting business plan was valuable for stakeholder buy-in. In 2018, the BNR, in consultation with Access to Finance Rwanda (AFR), initiated the design of the Rwanda National Digital Payment System (RNDPS) based on an analysis of the payments context in Rwanda. Diverse stakeholders across the Rwandan payments industry weighed in with their opinions over a three-month period, after which the BNR held an industry-wide design workshop to reach a consensus on the RNDPS’ key design features. Towards the end of 2018, industry stakeholders approved the design and business plan (National Bank of Rwanda 2020).

The COVID-19 pandemic caused a delay in the implementation of RNDPS. The pandemic was also a catalyst, however, for a broader transition from cash to digital payments. RNDPS rebranded to eKash as it transitioned from a government initiative to a consumer-facing brand. In 2021, eKash deployed a controlled pilot with two mobile money operators—Airtel Mobile Commerce and Mobile Money Rwanda Limited. The pilot was used to test the security and reliability of the system’s infrastructure, which were enhanced before eKash’s launch. eKash went live in May 2022 with mobile money participants and for P2P transactions. In 2023, commercial banks completed system integration tests and were onboarded to the system, making it an all-to-all, cross-domain IPS. The system will explore integrations with regional switches, such as COMESA’s payment system in development, once eKash reaches its intended goals of serving the Rwanda public efficiently and inclusively.

FIGURE H.1 | eKash timeline

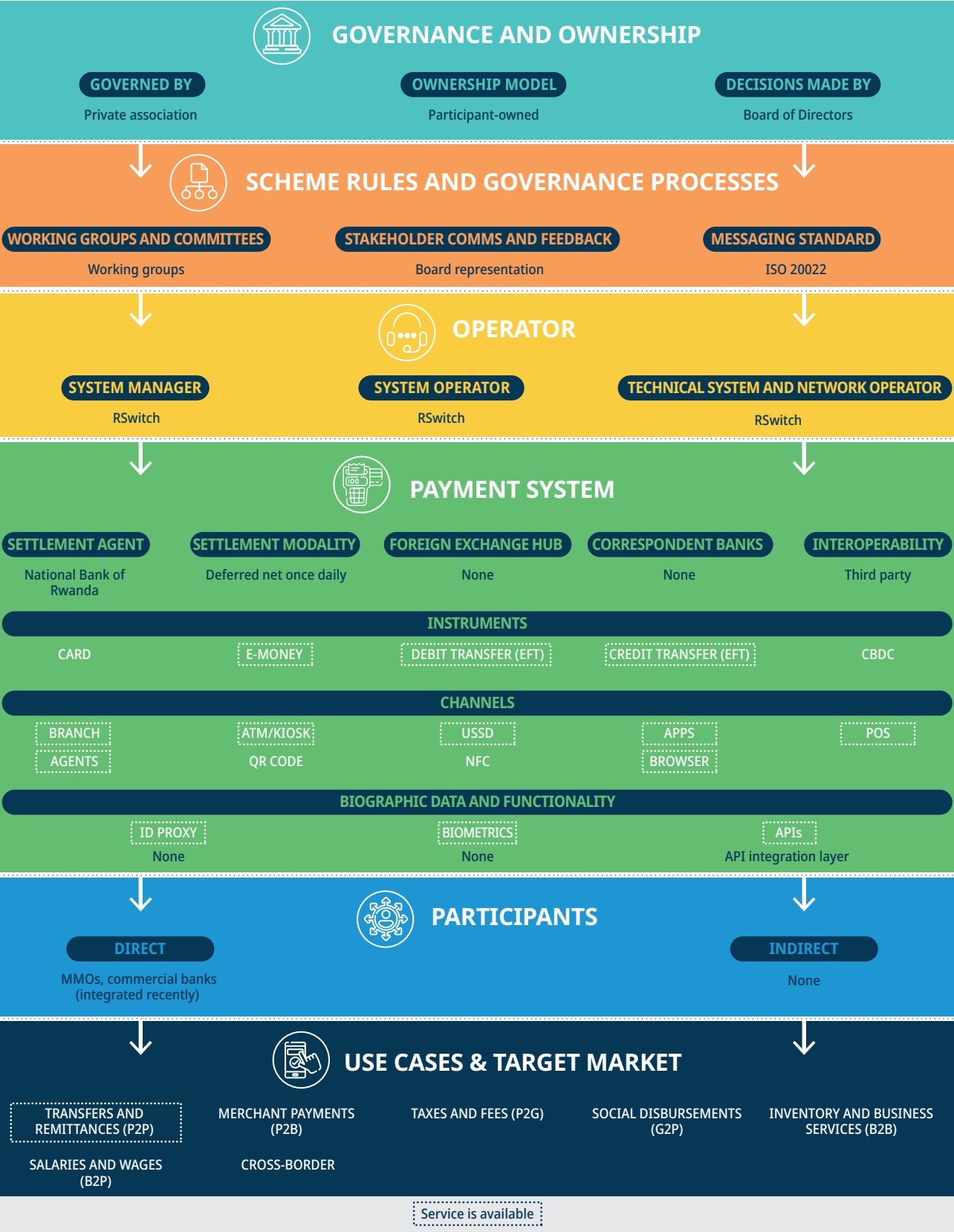


Source: National Bank of Rwanda 2023

Governance and operations

» Payment system overview

FIGURE H.2 | eKash model overview

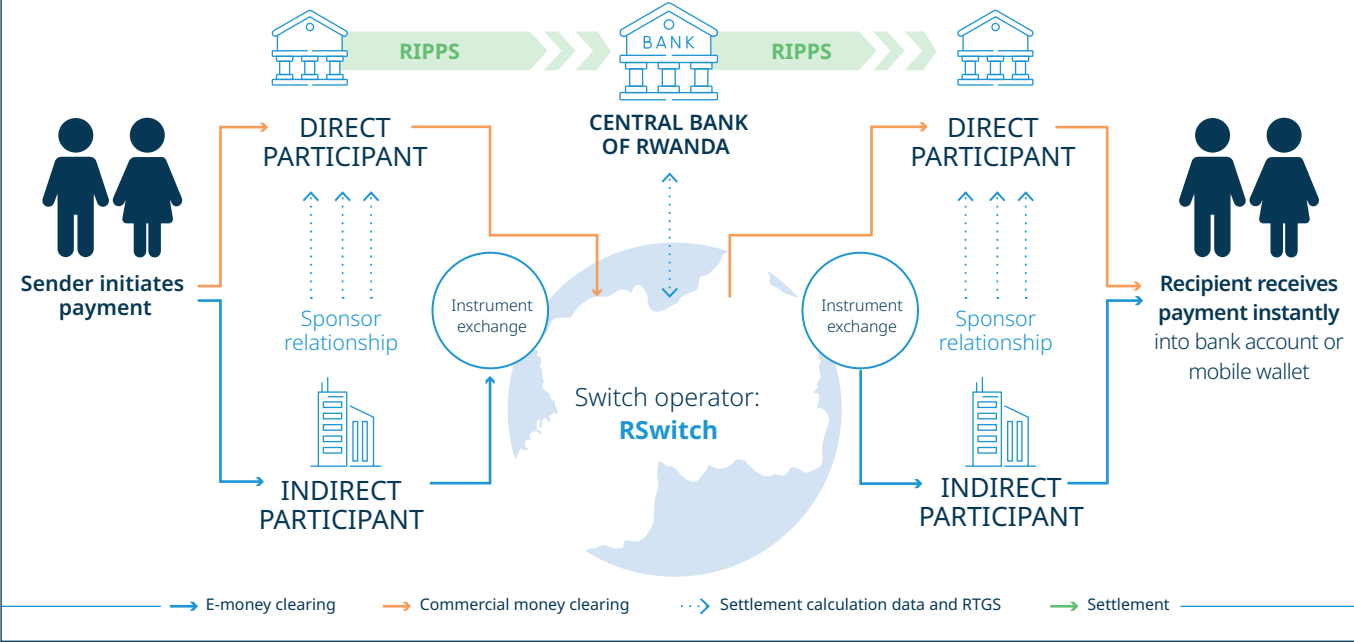


eKash was designed to achieve full all-to-all interoperability within the digital payment ecosystem and is accessible to any licensed financial service provider, including banks and non-banks (in other words, it's a cross-domain IPS). The national switch is operated by an independent and privately-owned company, RSwitch. RSwitch generates and sends the clearing files to the BNR, which settles transactions between participants with settlement accounts held at the BNR. RSwitch switches transactions between commercial money instruments (credit/debit electronic funds transfers (EFT)) and e-money instruments.

Direct participants include those providers that connect directly to the system operator. Only commercial bank participants have access to Rwanda Integrated Payments Processing System (RIPPS), Rwanda's RTGS (Karuhanga 2022). Each commercial bank participant

has pre-funded accounts at the BNR, which the BNR monitors closely and notifies the direct participants when more pre-funding is required. Indirect participants—including MFIs, all telcos issuing e-money, saving and credit cooperative societies, and other non-bank PSPs—must settle via sponsor banks at which they must hold pre-funded accounts. Clearing occurs through the national switch and directly posts to accounts. eKash performs the net settlement calculations and provides information for the positions to settle via RIPPS. RIPPS carries out settlement once per day at 10am, though settlement may happen more than once if deemed necessary. Other eKash stakeholders include those authorized by the BNR to provide overlay services, such as fintechs, government agencies (e.g., the IremboGov online platform), aggregators, and e-commerce providers. These stakeholders can be connected via an API layer (National Bank of Rwanda 2020).

FIGURE H.3 | eKash transaction flow





Governance

eKash has embraced a democratic and inclusive governance structure to give voice to the broader payment industry.

eKash is a participant-owned system that follows a private association governance model. All financial institutions (banks, MFIs, fintechs) are association members. RSwitch is the system operator and supports the participant-owned system in a governance role. RSwitch is privately-owned according to a shareholding structure and is the system manager. Investments in RSwitch in the wake of COVID-19 have resulted in changes to its board of directors, which now includes members of civil society, of the banking association, MMOs, and fintechs (New Times Rwanda June 2023). The board of directors form the governance body and there is limited distinction between the system and operator given the representative board. The BNR has non-voting observer status at the board. All other board members have equal voting rights and collectively elect new members. Actors who have an ability to vote include the commercial bank and MFI representatives, fintech representatives, and a government representative. Participant representation on the board ensures that the industry has a voice in governance.

Though eKash is privately owned, the Rwandan government is substantially involved in its governance structure through agencies such as the Ministry of

Finance and the Ministry of ICT, and through oversight activities by the BNR. Working groups manage operations, legal and compliance, technology, and products and services. Group members are participants of the system. Members are nominated by their respective companies. Participants receive the meeting minutes so they can contribute comments and a validation meeting is called to confirm decisions with the broader membership. Any decision made by a working group is preferably by consensus. Only in limited cases when consensus is not possible, and the matter is pressing, does the committee defer to a majority decision. For instance, the participants were involved in establishing the pricing principles and pricing metrics within eKash's scheme rules.



Functionality

The system supports multiple channels and both commercial bank and e-money instruments (RSwitch n.d.). eKash is channel-agnostic, in that the system supports any channel endorsed by a participant PSP. The participant PSPs include eKash as a consumer-facing option within their menu of payments. Payment instruments supported by the system include card, debit EFT, credit EFT, and e-money. Payment channels include ATM, POS, USSD, and mobile app (National Bank of Rwanda 2020). Discussions regarding the role of CBDC in the system are underway, but are not finalized.



Technical standards and use cases

RSwitch has endorsed a staged approach to rolling out use cases. eKash currently only supports P2P payments, although it is possible that some transactions are P2B payments to MSMEs through the personal accounts of the business owners. RSwitch plans to implement the remaining use cases, in the following order: merchant payments (P2B), bulk disbursements (B2P), social transfers (G2P), and business inventory payments (B2B; National Bank of Rwanda 2020).

The system uses ISO 20022 as its native message format for integration, which RSwitch expects will better prepare the system for future integration with regional and international payment systems. RSwitch also offers an API integration to allow banks and PSPs with systems running on other messaging standards to integrate. The layer enables non-traditional players, such as fintechs and aggregators, to participate securely in the system and bring new services to consumers (National Bank of Rwanda 2020). While P2B payments are incorporated through existing channels, the industry will re-convene to decide whether to introduce a scheme-level QR code.



Business model

AFR funded the initial costs, particularly around the creation of the RNDPS blueprint and scheme rules. RSwitch

and the industry absorbed the remaining start-up costs. The association opted to recoup these initial costs to avoid putting an undue burden on end-users. As such, the eKash scheme is a for-profit system that aims to operate in a way that enables cost-recovery by incentivizing efficiency and innovation. The system charges participants switching fees, which amount to 0.3% of the transaction value up to a maximum of \$0.38 (RWF 420). Provisions exist for a nominal return to its investors. Participants also pay a one-time integration fee of \$893 (RWF 1,000,000). The system was designed to be affordable for all participants, which should ensure affordability for end-users.



Scheme rules

eKash is a cross-domain system and therefore incorporates the same rules for e-money as for commercial money switching. The scheme rules stipulate prudential obligations, security, liability demarcation, and settlement modalities (i.e., direct or indirect settlement processes). The scheme rules state that every organization licensed by the National Bank of Rwanda is eligible to become a participant and can be directly connected to the switch; only members of the clearing house are directly settled through RIPPS. Organizations which do not participate in the clearing house must have a settlement agent. The dispute resolution module can reconcile the status of a transaction

between the clearing and the settlement of funds, but not at the stage of posting the transaction within PSP subsidiary ledgers or systems. In the case of participant disputes, the involved parties should attempt to resolve it bilaterally among themselves. In cases where the parties cannot reach a conclusion, the scheme rules include service-level agreements (SLA) for the time in which the parties must respond to any dispute. In the case of no response, the automated SLA management triggers the next action. In addition, the scheme rules incorporate a data protection framework and associated risk management framework (National Bank of Rwanda 2020).



Volumes and values

Between the launch of eKash in May 2022 and December of that year, eKash processed 1.1 million transactions amounting to \$5.7 million (RWF 6.4 billion) in value. The average transaction size fluctuated from \$4 (RWF 4,500) in June 22 up to \$5.14 (RWF 5,750) in September 22 and \$3.57 (RWF4,000) in December 2022 (National Bank of Rwanda 2023). It is not possible to predict future transaction averages or adoption levels at this early stage.



Regulation

The driver of payments law and regulation is the Government of Rwanda's Vision 2050 policy that aims for upper-middle income status by 2035 and high-income status by 2050. Achieving these objectives will require a robust and inclusive financial sector, including a safe, reliable, and efficient payment system. The Rwanda National Payment System Strategy 2018–2024 (the “payment systems strategy”) guides the Government of Rwanda and payment system stakeholders toward developing a cashless economy and ensuring financial services reach all.

Since its launch, specific payment system laws have been introduced to create an enabling environment, which creates the framework within which eKash functions. The laws and regulations define the structure and functioning of the payment system, payment service providers, operators, instruments, consumer protection, and overall governance. BNR's mandate to supervise and regulate payment and banking systems derives from *Law No 061/2021 of 14/10/2021 Governing the Payment system*, and the *Regulation N°06/2010 of 27/12/2010 of the National Bank of Rwanda relating to the Oversight of Payment Systems and the Activities of Payment Service Providers* (National Bank of Rwanda 2023, 2010a and 2010b). These laws cover regulation and supervision of payments-related activities, including the licensing of supervised pilots for innovation. Other pertinent laws and regulations include the *Law on AML/CFT-2020*, establishing CDD procedures, and the *Financial Service Consumer Protection Act* (2021).



Learnings related to inclusivity

Measured by the IPS Inclusivity Spectrum defined in Chapter 2, eKash is not yet ranked in terms of inclusivity. One reason for this is while it does provide access to the most widely used channel in Rwanda (mobile money), it does not yet support P2B payments. eKash is in the process of adding P2B functionality, however. Furthermore, there are explicit plans outlined in the interoperability blueprint that highlight the path to a scenario where the IPS supports a full range of use cases. Having explicit plans to integrate use cases drives awareness among the participants of the roll-out agenda and ensures buy-in.

Participants have equal input into decision making and the BNR has a clear governance role in the system. Yet the system endorses a for-profit model aimed at efficient cost-recovery. There is no clear distinction between the scheme and the operator's shareholdings, governance, and for-profit pricing models. In other words, it is not comparable to a not-for-loss model. Equality of ownership opportunities are difficult to ascertain without a separation between the operator and the system.

On the side of inclusivity, however, eKash is the only IPS in Africa to publish its scheme rules. This serves as an exemplar for other systems to enhance transparency, allowing participants to assess the system provisions.

Rwanda's National Payment System Strategy also centers on a transition toward a cashless society. The policy's principles have permeated throughout the payments industry, resulting in prospective participants who are invested in supporting a modern,

digital payment system to achieve the government's vision. This ultimately can lead to more participants utilizing eKash, resulting in a more inclusive IPS.

Blueprint and scheme rules informed by extensive industry and stakeholder engagements ensures industry participants are on board. The establishment and implementation of eKash was informed by extensive consultations between industry and the BNR. This resulted in clarity behind the intentions of the system, addressing any concerns related to competition, and the benefits participants gain from its implementation.

Using a third-party to lead the ideation furthermore resulted in the successful establishment of the IPS. AFR played a key role in establishing the blueprint for eKash and drove an inclusive consultation process between industry and the BNR. AFR and the BNR were responsible for drafting the Rwanda interoperability blueprint that set the foundation for the implementation of eKash. During the drafting of the blueprint, industry was repeatedly invited to share feedback and to approve draft language. AFR's role in developing the blueprint illustrates how independent third parties can be effective in design consultations of an IPS.

A layered governance model with industry inputs from different angles guarantees the voice of participants. Further, eKash has a transparent governance structure. This includes executive management, working groups and forums for industry input. These various layers of governance provide outlets and representation for both the regulator and the industry.

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