

ISSA



Corporate Actions and Proxy Voting

Industry Survey on Digitization at Source

Results, Conclusions and Next Steps

A contribution to align current industry efforts to achieve
a more efficient global Corporate Actions and Proxy Voting processing environment

December 11, 2015

Disclaimer:

Neither ISSA nor the authors of this document accept any responsibility for the accuracy or completeness of the information contained herein.

International Securities Services Association ISSA
c/o UBS AG
EUR1 - EG2230
P.O. Box
CH-8098 Zurich
Switzerland

Contact +41 (0)44 239 91 94
issa@issanet.org
www.issanet.org

Table of Contents

1. Introduction	3
1.1 Background	3
1.2 Scope of the Survey 2015	3
1.3 Survey Questions	3
2. Summary	5
3. Overview of Reporting Parties	7
4. Results from Individual Questions - Overview	9
5. Results from Individual Questions - Details	15
6. Working Group Members	69

1. Introduction

1.1 Background

In May 2010 and in June 2012 ISSA released overall 13 Principles on Corporate Actions and Proxy Voting with the goal to support the improvement of the end to end flow of Corporate Event information from source (i.e. issuers) through to destination (i.e. investors). The Principles were warmly received by the industry.

In 2013 the ISSA Board mandated a Working Group to compile a progress report on the implementation status of these Principles. The results revealed a rather modest adoption on a global scale due to different priorities and lack of consensus along the securities processing chain. The report was published in September 2013.

As a consequence – and based on the fact that ISSA cannot authoritatively demand global implementation of its recommendations – ISSA decided to continue to make surveys and specifically highlight those markets that have successfully implemented all or part of these recommendations.

With the help of the WFC and the regional CSD Associations, ISSA conducted in the first half of 2015 a new survey among the global CSD community. The survey focused on the status of Digitization of Corporate Action Information at Source in the various markets.

The findings form the core of this report.

For the download of all above mentioned reports see the following link:

www.issanet.org/e/3/current-wgs/cwg4.html

1.2 Scope of the Survey 2015

The survey 2015 particularly focused on the status of Digitization of Corporate Action Information at Source, given that the information often begins the journey in analog form (a pdf document, although electronic and digital, does not support automated processing). In order to enable the financial industry to control, let alone minimize risk and cost, the information defining the Corporate Action Event must become digitized at some stage of its journey.

The survey was completed by 53 CSDs from around the world. The participating CSDs are listed in section 3.

1.3 Survey Questions

The following questions were presented to the CSDs:

1. How is Corporate Action information delivered to you? What is your source of Corporate Action data?
2. Is there any local regulation governing the disbursement of Corporate Action data, or is any regulation being considered?
3. Are you able to receive and transmit Corporate Action source information using automated technology?

4. Do you face any challenges attempting to digest information from the Corporate Action information source using automated technology?
5. Do you face any challenges related to internal systems or resource constraints when attempting to source the data in a standard electronic format from the Corporate Action information?
6. If you are not receiving and sending digital event announcements, please describe any plans you have to implement Digitization at Source.
7. Do you consider the issuers in your market would provide formatted and digitized event data if given a mechanism to do so?
8. Do issuers in your market recognise the benefits of Digitization at Source?
9. Can ISSA help in achieving Digitization at Source in your market?

2. Summary

Below is a summary of the most important findings of the survey:

Corporate Action Information Data Source and Delivery

On a global level, more than 80% of the respondents receive their Corporate Action notifications from Issuers, Issuer Agents, Stock Exchanges or Data Vendors, whereby digitized formats account for less than a third of events. When data received are digitized, proprietary formats remain the main data format with 42%, ISO and XBRL formats together accounting for a little over 30%. Regional variations do prevail, however.

Local Regulation Governing Disbursement of Corporate Action Data

In about 60% of the markets there is a local regulation ruling the distribution of Corporate Action data. The most common source of mandatory information distribution are the Issuers or their Agents (40%), with CSDs (20%) and Stock Exchanges (17%) following suit. Again there are regional variations.

Challenges faced with attempting to Digest Information from the Corporate Action Data Source

45% of markets reporting challenges when attempting to automatically digest information from the Corporate Action information source encountered problems with Issuer engagement and Issuer understanding of CSD Participant needs. Issuer Agents could clearly play a role in offering solutions as they are representative of multiple Issuers and can act on their behalf.

Challenges related to Internal Systems

The format conversion in order to allow for STP processing of the Corporate Action information is clearly the highest challenge reported by the relevant respondents. Other challenges named were: Scrubbing and cleansing of information received from different sources, development cost, reduction of risk and manual effort.

Plans to Implement Digitization at Source in a Market

There is a substantial number of markets that have not begun to discuss or address the Digitization at Source capabilities or have only just begun such discussions. It seems that those markets that are actively engaged in digitizing the event data are passionate and continue to press forward for implementation.

Issuers Providing Digitized Event Data; Issuers Recognizing Benefits from Digitization at Source

Market participants believe that the Issuers would be willing to utilize a platform provided to them to distribute data in a more efficient way, even though the appetite to create and maintain such a platform does not seem to be supported by the Issuers. Also, the same consensus exists regarding the knowledge Issuers have pertaining to the potential benefit of having Event Data digitized, however, certain incentives would have to be provided.

ISSA's Assistance in Achieving Digitization at Source

In line with the recommendations made in its 2013 Survey Report, ISSA is keen on continuing to actively promote the Corporate Action Principles and to publish case studies highlighting benefits seen in markets where most progress towards the ISSA Principles has been made.

Conclusion

The Corporate Actions Working Group is of the firm belief that achieving Digitization at Source for Corporate Action Events is in the best interest of all participants in the investment chain. Collection and distribution of data for financial intermediaries will be faster, cheaper and less prone to errors. Investors will receive more consistent, timely and accurate information. Issuers can be comfortable that details of their events are received timely and accurately by all of their investors.

Next Steps

In the course of 2016 and beyond, ISSA will showcase by means of its periodic Newsletters a selection of markets who have successfully implemented Digitization at Source by engaging with the Issuer community.

3. Overview of Reporting Parties

Market	Institute
Argentina	Caja de Valores S.A.
Armenia	NASDAQ OMX ARMENIA (Stock Exchange and CSD)
Australia	ASX Limited
Azerbaijan	National Depository Center of the Republic Azerbaijan
Belgium (Euroclear ESES markets)	Euroclear Belgium
Bosnia and Herzegovina (Republic of Srpska)	Centralni registar hartija od vrijednosti a.d.
Brazil	BM & FBOVESPA S/A
Bulgaria	Central Depository AD
Canada	The Canadian Depository for Securities Limited
Chile	Deposito Central de Valores S.A.
China	China Central Depository & Clearing Co. Ltd. (CCDC), the national Treasury bond depository system in China.
Cyprus	Central Securities and Central Registry
Dubai	NASDAQ Dubai Central Securities Depository
Eastern Caribbean	Eastern Caribbean Central Securities Depository
Egypt	Misr for Central Clearing, Depository & Registry - MCDR
Estonia	Estonian Central Securities Depository
France (Euroclear ESES markets)	Euroclear France SA
Germany	Clearstream Banking AG
Ghana	Central Securities Depository Ghana Limited
Hong Kong (HKEX)	Hong Kong Exchanges and Clearing Limited
Hong Kong (HKMA)	Hong Kong Monetary Authority
India (CDS)	CSDL India
India (NSDL)	National Securities Depository Limited (NSDL)
Indonesia	PT Kustodian Sentral Efek Indonesia
International Securities Markets (Clearstream Banking acting as ICSD)	Clearstream Banking SA
International Securities Markets (Euroclear Bank acting as ICSD)	Euroclear Bank SA/NV
Ireland	Euroclear UK & Ireland Ltd
Italy	Monte Titoli SpA
Kazakhstan	Central Securities Depository JSC (KACD)

Kuwait	Kuwait Clearing Company K.S.C., aka KCC, Maqasa, Maqasa Company, Kuwait
Lebanon	Midclear SAL
Malaysia	Malaysia Bursa Berhad
Malta	MSE Central Securities Depository
Montenegro	Central Depository Agency of Montenegro
Morocco	Maroclear
Nepal	Nepal Central Securities Depository
Netherlands (Euroclear ESES markets)	Euroclear Nederland
Norway	Verdipapirsentralen ASA (VPS)
Pakistan	Central Depository Company of Pakistan Limited
Qatar	Qatar Central Securities Depository
Russia	National Settlement Depository
Singapore	Singapore Exchange Limited
Slovenia	KDD Central Securities Clearing Corporation
South Africa	STRATE Pty Ltd
Switzerland	SIX Securities Services AG
Taiwan	Taiwan Depository & Clearing Corporation TDCC
Thailand	The Stock Exchange of Thailand
Turkey	Merkezi Kayit Kurulusu A.S.
United Kingdom	Euroclear UK & Ireland Ltd
Ukraine	National Depository of Ukraine
United States	The Depository Trust & Clearing Corporation
Vietnam	Vietnam Securities Depository
Zimbabwe	Chengetedzai Depository Company Limited

4. Results from Individual Questions - Overview

Question 1: How is Corporate Action information delivered to you? What is your source of Corporate Action data?

Globally over 50% of the respondents receive their CA notifications from Issuers and Issuer Agents. This figure goes up to close to 80% when adding Stock Exchanges and Data Vendors.

Regional variations are as follows:

- Americas: 52% of the respondents receive their information from Issuers, Stock Exchanges and Issuer Agents. The remaining 48% are spread across the other sources, such as newspapers or CSDs.
- APAC: Over 80% of the respondents receive the information from Issuers, Issuer Agents and Stock Exchanges.
- EMEA: 75% of the respondents receive their CA information from Issuers, Issuer Agents, Stock Exchanges and Data Vendors.

80% of the respondents receive their CA information in proprietary format (29%), digitized format (28%) or unformatted text files (23%). Web input comes 4th with 8% of respondents receiving their CA information by this channel.

Regional variations are as follows:

- Americas: 41% of the respondents receive their information in unformatted text files, another 33% in proprietary format and 25% in digitized form.
- APAC: 47% of the respondents receive their CA information in proprietary format, 29% in digitized format and 17% in unformatted text files, web input representing 6%.
- EMEA: Data formats are more scattered with digitized format representing 27%, proprietary format 26%, unformatted text files 23% and web input forms 11%.

When data received are digitized, proprietary formats remain the main data format with 42%, ISO 15022 23%, ISO 20022 6% and XBRL 2.5%

Regional variations are as follows:

- Americas: 40% of the respondents receive their information in proprietary format, 10 % in XBRL format and 10% in ISO 15022.
- APAC: 69% of the respondents receive their information in proprietary format, the rest of data formats being equally split between XBRL, ISO 15022 and ISO 20022 with 7.5% of respondents for each format.
- EMEA: Proprietary formats represent 37% of data formats, followed by emails 27.5%, ISO 15022 at 27% and ISO 20022 close to 8%.

Question 2: Is there any local regulation governing the disbursement of Corporate Action data, or is any regulation being considered?

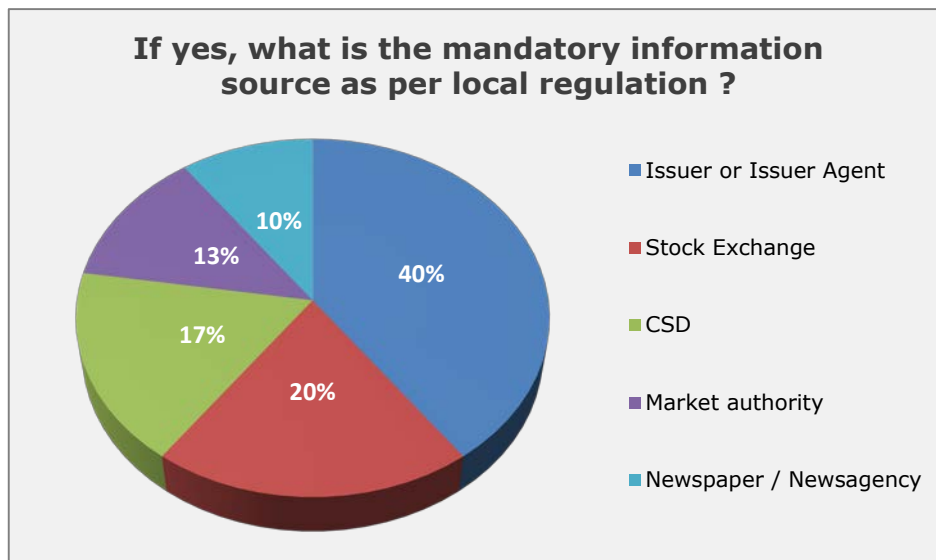
In a majority of countries there is a local regulation ruling the distribution of corporate action data. 31 entities out of 53 replied indeed to this question.

For the responding entities that are part of a European member state however there is currently no such local regulation in the majority of the cases (62% of these entities

replying «No» to this question). We may however expect this to change in the coming years when the Shareholders Directive will become effective.

The follow up question was: **What is the mandatory information source as per local regulation?**

Here there is a split over a variety of information sources. Some entities report as well that several sources are possible for the same country.



When there is a mandatory information distribution, the most common source is the Issuer or its Agent that has this responsibility (in 40% of the cases). CSDs and Stock Exchanges are also considered as mandatory sources in 20% and 17% of the cases respectively. In some markets some specific Market Authorities or official newspapers have this duty. For the responding entities that are part of a European member state and that replied positively to the first question the disbursing entity is in the majority of the cases the Issuer. In the frame of the Shareholders directive we may expect an increased role of other market players such as the Stock Exchanges or CSDs.

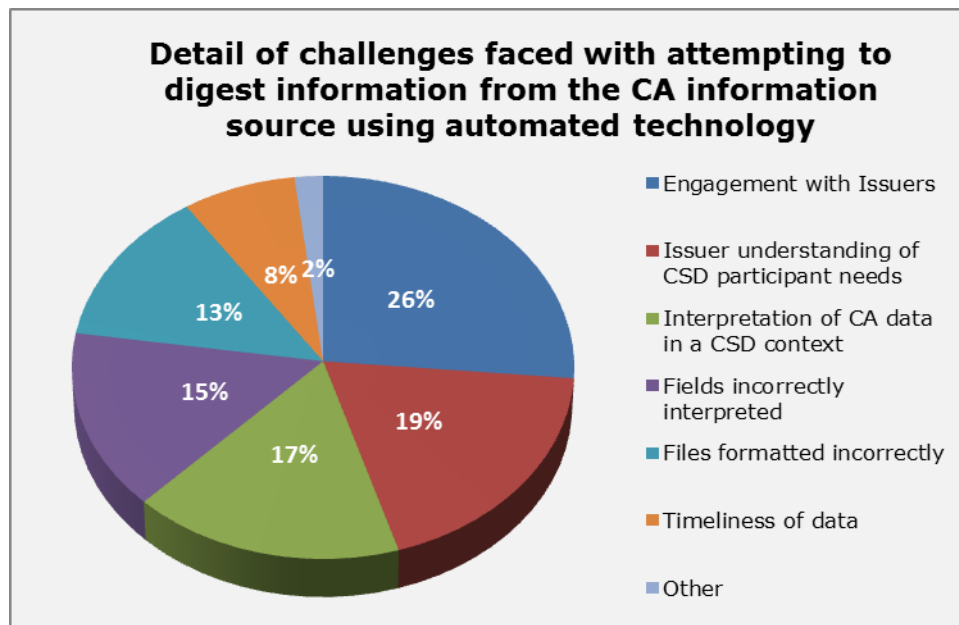
Question 3: Are you able to receive and transmit Corporate Action source information using automated technology?

Of the 53 respondents, 42 replied that they are able to receive and transmit source information using automated technology. Of the 42, 32 use proprietary systems with the remainder using SWIFT.

Only 5 have full STP, with 40 having partial STP and 8 having no STP.

Question 4: Do you face any challenges attempting to digest information from the Corporate Action information source using automated technology?

Of the respondents, 24 replied Yes and 29 replied No. For further analysis the respondents that previously answered they have no automation have been excluded. The following chart reflects the details of the challenges reported – note that several markets reported multiple challenges.



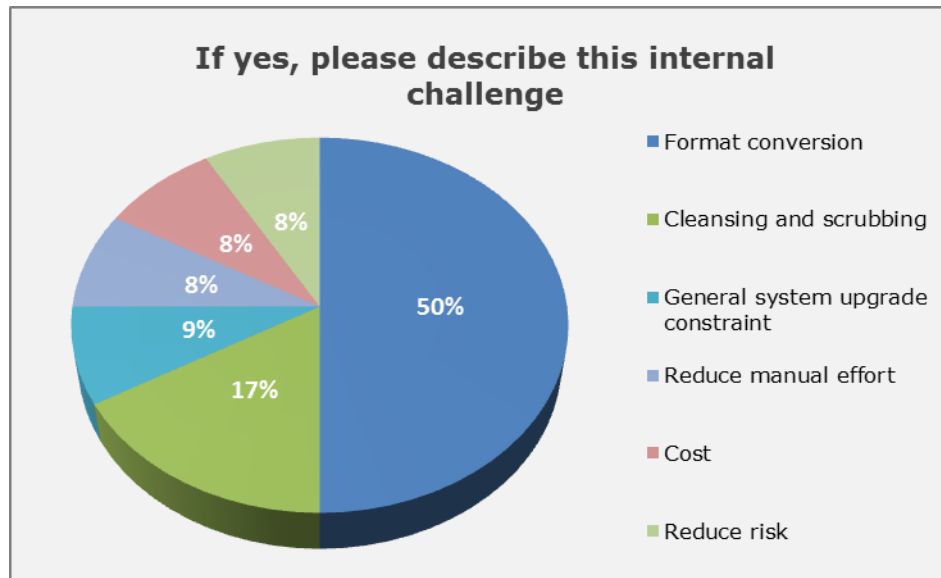
Most notably, 45% of markets reporting challenges encountered problems with Issuer engagement and Issuer understanding of CSD Participant needs. As the «golden source» of Corporate Action announcements, Issuer engagement and understanding is clearly critical to any digitization initiative. Issuer-related challenges have to be recognised (and solutions sought) as part of any implementation plans to translate sometimes complex Corporate Actions in a digitized form. Issuer Agents can clearly play a role here as they are representative of multiple Issuers and can act on their behalf. Depending on the choice of the Issuer or the market set-up there is also a role for CSD and Exchange infrastructures to facilitate a digitized channel from the Issuer/Issuer Agent to the securities holders.

Question 5: Do you face any challenges related to internal systems or resource constraints when attempting to source the data in a standard electronic format from the Corporate Action information?

The vast majority of the responding entities (82%) replied that there are no internal system or resource constraints.

Some entities did not reply to this question. However, even if we were to consider these entities to have internal constraints it would not significantly change the situation. In this case the percentage of entities not having internal constraints would fall to 77%.

To the follow up question «**If yes, please describe this internal challenge**»: The format conversion in order to allow for STP processing of the Corporate Action information is clearly the highest challenge (in 50 % of the cases). There are also a variety of other challenges such as the cleansing and scrubbing of the information received from different sources, as well as the development cost or the challenge to reduce risk and manual effort.



Question 6: If you are not receiving and sending digital event announcements, please describe any plans you have to implement Digitization at Source.

For this question only about 50% of the participants responded. Many organizations which previously indicated some or all announcements are received in digital form did not respond. For others who did not respond this likely indicates that there are no plans to implement digitization. That said, there are a few that are in the early stages of discussions around digitization of event data.

There are a few markets in which discussions and implementation plans are clearly ahead of the rest of the group where announcements remain unformatted:

- **Morocco** - A new IT platform being developed will improve CA processing and allows receiving / sending digital event announcements. MAROCLEAR already launched tests on CA in March 2015. The implementation of the new IT platform was planned to start in May 2015.
- **Indonesia** - Enhancements to the core business systems are currently being developed and implementation is expected in 2016, In this new system the digital event announcement will be provided from Exchange or Issuer to CSD.
- **DTCC -US Market** - DTCC is in the midst of a large «transformation» effort related to Corporate Actions processing, which has adopted the ISO 20022 messaging standard in place of proprietary file formats. By 2017, DTCC will have converted all proprietary formats to the ISO 20022 standard. Currently, over half of the proprietary formats are also being offered to clients in the ISO 20022 format.

In relation to this question, it seems that the markets that are actively engaged in digitizing the event data are passionate and continue to press forward for implementation.

Overall, there are numerous markets that have not begun to discuss/address the Digitization at Source capabilities or have only begun such discussions. The rationale for this could be costs to develop an application, the inability to standardize the information for multiple types of events, and the potential shift in liability to the Issuers/Agents in interpreting the data.

Questions 7/8: Do you consider the Issuers in your market would provide formatted and digitized event data if given a mechanism to do so? Do issuers in your market recognize the benefits from Digitization at Source?

It is clear that the market participants believe Issuers would be willing to utilize a platform provided to them to distribute data in a more efficient way. Also, the same consensus exists regarding the knowledge Issuers have pertaining to the potential benefit of having event data digitized.

From the responses received, it is evident that market participants would like Issuers to use such a mechanism; however the appetite to create and maintain such a platform does not seem to be supported by the Issuers. Many respondents believe that unless there are regulatory requirements, or a standardized platform created and supported within the market, participants, regulators and Issuers will stick to their current processes as they do not gain the same benefit the custodians and other players would from improving the market information process.

As previously discussed within the CAWG, regulations are difficult to drive by groups like ISSA considering the market specific conditions and requirements.

One might infer that if a global platform that was able to be presented to Issuers existed, the tangible benefits would be more easily identifiable to the Issuer groups.

Cost and liability concerns have also been identified as prevalent to the Issuer community. Shared liability and costs across the market participants would more than likely help kick start this effort, but could also be a cause of concern.

Question 9: Can ISSA help in achieving Digitization at Source in your market?

As stated above, many markets are driven by regulatory demands and requirements. Hence for ISSA to try and discuss on a one by one basis is not feasible. The approach ISSA should take is the one agreed at the publication of the last Working Group Report – namely:

- Promote the Principles actively with industry participants, particularly CSDs and exchanges, especially as they can be adapted to their individual markets and thus by extension support the global process.
- Promote regulatory change to require the Digitization of Corporate Action information at the source, and specifically support the efforts of CSDs and exchanges in getting the necessary regulatory change in their home markets.
- Take a firm stand on and actively promote the use of ISO formats as the standard for global cross-border Corporate Action data exchange between exchanges, CSDs, custodians and investors.
- The Working Group should repeat this survey annually to measure progress and highlight success stories.
- The Working Group should publish a case study highlighting the benefits seen in a small number of markets where most progress towards the ISSA Principles is seen.

Engagement with Other Industry Organizations

Based on the results of the survey and in particular the recommendations reiterated in Question 9 above, the Working Group discussed if a possible partnership with one or more industry associations would be beneficial. Several industry groups and organizations are

already engaged in the effort to reduce risks and costs related to Corporate Action information distribution. These include the US group, ISITC, the Securities Market Practice Group and SWIFT who already work together to improve the ability of both ISO 15022 and ISO 20022 to increase automation rates. The US XBRL initiative and other examples have demonstrated that Corporate Action information can be successfully digitized at source and can be distributed and processed automatically.

As many of the ISSA member institutions are active in these existing groups a partnership effectively exists. ISSA encourages other institutions to engage with these and organizations with similar goals of promoting and adopting best practices supporting digitization at source and subsequent distribution and processing.

Showcases

ISSA believes that some of the markets covered in this survey offer an opportunity for a deep dive exercise to review the lessons learned, challenges faced, costs involved and benefits incurred. The experience made by these markets should be made available to a wider audience and be used to induce respectively facilitate change. In the course of 2016 and beyond, ISSA will showcase some of these markets by means of its periodic Newsletters.

5. Results from Individual Questions - Details

Question 1	How is CA info delivered to you? What is your source of data?	How is the data formatted?	Specify if digitized format
Argentina	<ul style="list-style-type: none"> • CSD • Depository • Issuer • Stock Exchange 	<ul style="list-style-type: none"> • Unformatted text file 	
Armenia	<ul style="list-style-type: none"> • Issuer • Issuer agent 	<ul style="list-style-type: none"> • Digitized format 	<ul style="list-style-type: none"> • ISO 15022
Australia	<ul style="list-style-type: none"> • Stock exchange 	<ul style="list-style-type: none"> • Digitized format 	<ul style="list-style-type: none"> • ISO 20022
Azerbaijan	<ul style="list-style-type: none"> • Issuer 	<ul style="list-style-type: none"> • Unformatted text file 	<ul style="list-style-type: none"> • E-mails
Belgium (Euroclear ESES markets)	<ul style="list-style-type: none"> • CSD • Data vendor • Depository • Issuer • Issuer agent • Stock exchange 	<ul style="list-style-type: none"> • Digitized format • Proprietary format • Unformatted text file 	<ul style="list-style-type: none"> • E-mails • ISO 15022 • Proprietary formats
Bosnia and Herzegovina (Republic of Srpska)	<ul style="list-style-type: none"> • Issuer • Issuer agent • For CA which are not to be executed in CSD also SE www and newspaper 	<ul style="list-style-type: none"> • Proprietary format 	<ul style="list-style-type: none"> • Proprietary formats
Brazil	<ul style="list-style-type: none"> • Issuer • Stock exchange 	<ul style="list-style-type: none"> • Digitized format • Proprietary format 	<ul style="list-style-type: none"> • E-mails • Proprietary formats
Bulgaria	<ul style="list-style-type: none"> • Issuer • Stock exchange 	<ul style="list-style-type: none"> • Digitized format • Web input form • Hard copy 	<ul style="list-style-type: none"> • Proprietary formats
Canada	<ul style="list-style-type: none"> • Agent • CSD • Data vendor • Depository • Issuer • Issuer agent • Stock exchange 	<ul style="list-style-type: none"> • Digitized format • Proprietary format • Unformatted text file 	<ul style="list-style-type: none"> • E-mails • ISO 15022 • Proprietary formats
Chile	<ul style="list-style-type: none"> • Issuer • Newspaper / gazette • Stock exchange • Superintendency (regulator) 	<ul style="list-style-type: none"> • Proprietary format • Unformatted text file 	<ul style="list-style-type: none"> • Proprietary formats
China	<ul style="list-style-type: none"> • Issuer • Issuer agent 	<ul style="list-style-type: none"> • Digitized format 	<ul style="list-style-type: none"> • Proprietary formats
Cyprus	<ul style="list-style-type: none"> • Issuer • Issuer agent 	<ul style="list-style-type: none"> • Proprietary format • Web input form 	<ul style="list-style-type: none"> • Proprietary formats
Dubai	<ul style="list-style-type: none"> • Issuer 	<ul style="list-style-type: none"> • Proprietary format 	<ul style="list-style-type: none"> • Proprietary formats
Eastern Caribbean	<ul style="list-style-type: none"> • Issuer 	<ul style="list-style-type: none"> • Unformatted text file 	<ul style="list-style-type: none"> • E-mails
Egypt	<ul style="list-style-type: none"> • Issuer 	<ul style="list-style-type: none"> • Proprietary format • Paper Form 	<ul style="list-style-type: none"> • Proprietary formats

Question 1	How is CA info delivered to you? What is your source of data?	How is the data formatted?	Specify if digitized format
Estonia	<ul style="list-style-type: none"> • Issuer • Linked CSDs (relevant CA for Estonia from Latvian and Lithuanian CSDs) 	<ul style="list-style-type: none"> • Digitized format • Web input form 	<ul style="list-style-type: none"> • E-mails • ISO 15022 • ISO 20022 • Digitally signed documents .bdoc, • Encrypted documents .cdoc
France (Euroclear ESES markets)	<ul style="list-style-type: none"> • CSD • Data vendor • Depository • Issuer • Issuer agent • Stock exchange 	<ul style="list-style-type: none"> • Digitized format • Proprietary format • Unformatted text file 	<ul style="list-style-type: none"> • E-mails • ISO 15022 • Proprietary formats
Germany	<ul style="list-style-type: none"> • Agent • Data vendor • Issuer agent • Data vendor = Wertpapiermitteilung (WM) 	<ul style="list-style-type: none"> • Digitized format • Proprietary format • Unformatted text file • Bundesanzeiger, Wertpapiermitteilung & Automatic Redemption Process 	<ul style="list-style-type: none"> • E-mails • Proprietary formats
Ghana	<ul style="list-style-type: none"> • Depository • Issuer • Stock exchange 	<ul style="list-style-type: none"> • Proprietary format 	
Hong Kong (HKEX)	<ul style="list-style-type: none"> • Issuer • Stock exchange • Issuers post CA information on Stock Exchange website 	<ul style="list-style-type: none"> • Unformatted text file 	<ul style="list-style-type: none"> • Proprietary formats • Pdf file in text format
Hong Kong (HKMA)	<ul style="list-style-type: none"> • Agent 	<ul style="list-style-type: none"> • Unformatted text file 	
India (CDS)	<ul style="list-style-type: none"> • Issuer • Issuer agent 	<ul style="list-style-type: none"> • Proprietary format 	<ul style="list-style-type: none"> • Proprietary formats
India (NSDL)	<ul style="list-style-type: none"> • Issuer • Issuer agent • Newspaper / gazette • Stock exchange 	<ul style="list-style-type: none"> • Proprietary format 	<ul style="list-style-type: none"> • Proprietary formats
Indonesia	<ul style="list-style-type: none"> • Issuer • Newspaper / gazette • Stock exchange 	<ul style="list-style-type: none"> • Proprietary format 	<ul style="list-style-type: none"> • E-mails

Question 1	How is CA info delivered to you? What is your source of data?	How is the data formatted?	Specify if digitized format
International Securities Markets (Clearstream Banking acting as ICSD)	<ul style="list-style-type: none"> • Agent • Data vendor • Issuer agent 	<ul style="list-style-type: none"> • Digitized format 	<ul style="list-style-type: none"> • E-mails • ISO 15022
International Securities Markets (Euroclear Bank acting as ICSD)	<ul style="list-style-type: none"> • Agent • CSD • Data vendor • Depository • Issuer • Issuer agent • Newspaper / gazette • Stock exchange 	<ul style="list-style-type: none"> • Digitized format • Proprietary format • Unformatted text file 	<ul style="list-style-type: none"> • E-mails • ISO 15022 • Proprietary formats
Ireland	<ul style="list-style-type: none"> • Data vendor • Issuer agent 	<ul style="list-style-type: none"> • Digitized format • Unformatted text file 	<ul style="list-style-type: none"> • E-mails
Italy	<ul style="list-style-type: none"> • CSD • Issuer 	<ul style="list-style-type: none"> • Digitized format • Proprietary format • Unformatted text file • Web input form 	<ul style="list-style-type: none"> • ISO 15022
Kazakhstan	<ul style="list-style-type: none"> • Depository • Issuer agent 	<ul style="list-style-type: none"> • Digitized format • Proprietary format 	<ul style="list-style-type: none"> • ISO 15022 • Proprietary formats
Kuwait	<ul style="list-style-type: none"> • Issuer (after regulator approval) 	<ul style="list-style-type: none"> • Unformatted text file • Hard copy 	<ul style="list-style-type: none"> • E-mails
Lebanon	<ul style="list-style-type: none"> • Issuer • Newspaper / gazette • Stock exchange 	<ul style="list-style-type: none"> • Unformatted text file 	<ul style="list-style-type: none"> • E-mails • Proprietary formats
Malaysia	<ul style="list-style-type: none"> • Issuer • Issuer agent 	<ul style="list-style-type: none"> • Proprietary format 	<ul style="list-style-type: none"> • Proprietary formats
Malta	<ul style="list-style-type: none"> • Issuer 	<ul style="list-style-type: none"> • Unformatted text file 	<ul style="list-style-type: none"> • E-mails
Montenegro	<ul style="list-style-type: none"> • Issuer 	<ul style="list-style-type: none"> • Digitized format • Paper form 	<ul style="list-style-type: none"> • Proprietary formats usually .xls
Morocco	<ul style="list-style-type: none"> • Issuer • Issuer agent • Stock exchange 	<ul style="list-style-type: none"> • Digitized format • Proprietary format 	<ul style="list-style-type: none"> • ISO 15022 • Proprietary formats
Nepal	<ul style="list-style-type: none"> • Issuer 	<ul style="list-style-type: none"> • Proprietary format 	<ul style="list-style-type: none"> • Proprietary formats
Netherlands (Euroclear ESES markets)	<ul style="list-style-type: none"> • CSD • Data vendor • Depository • Issuer • Issuer agent • Stock exchange 	<ul style="list-style-type: none"> • Digitized format • Proprietary format • Unformatted text file 	<ul style="list-style-type: none"> • E-mails • ISO 15022 • Proprietary formats

Question 1	How is CA info delivered to you? What is your source of data?	How is the data formatted?	Specify if digitized format
Norway	<ul style="list-style-type: none"> • Issuer agent (using the [CSD] VPS GUI for input CA data and financial instruments) 	<ul style="list-style-type: none"> • Proprietary format • Web input form • Issuer Agent input data through VPS GUI 	<ul style="list-style-type: none"> • ISO 15022 • Proprietary formats • CA incoming is GUI, ISO & Prop.format • CA out depending on client/investor type
Pakistan	<ul style="list-style-type: none"> • Issuer • Issuer agent • Stock exchange 	<ul style="list-style-type: none"> • Digitized format 	<ul style="list-style-type: none"> • XBRL
Qatar	<ul style="list-style-type: none"> • Issuer 	<ul style="list-style-type: none"> • Proprietary format 	<ul style="list-style-type: none"> • Proprietary formats
Russia	<ul style="list-style-type: none"> • Data vendor • Issuer • Issuer agent • ICSD and other foreign CSD 	<ul style="list-style-type: none"> • Unformatted text file • Web input form 	<ul style="list-style-type: none"> • E-mails • ISO 15022 • ISO 20022
Singapore	<ul style="list-style-type: none"> • Agent • CSD • Depository • Issuer • Issuer agent 	<ul style="list-style-type: none"> • Digitized format • Web input form • SWIFT messages 	<ul style="list-style-type: none"> • ISO 15022
Slovenia	<ul style="list-style-type: none"> • Issuer 	<ul style="list-style-type: none"> • Unformatted text file • Paper form 	<ul style="list-style-type: none"> • Proprietary formats
South Africa	<ul style="list-style-type: none"> • Stock exchange 	<ul style="list-style-type: none"> • Unformatted text file 	<ul style="list-style-type: none"> • Proprietary formats • .csv format
Switzerland	<ul style="list-style-type: none"> • Agent • Data vendor • Depository • Issuer • Issuer agent • Newspaper / gazette • Stock exchange 	<ul style="list-style-type: none"> • Digitized format • Proprietary format • Unformatted text file • Web input form 	<ul style="list-style-type: none"> • E-mails • ISO 15022 • ISO 20022
Taiwan	<ul style="list-style-type: none"> • Issuer • Issuer agent • Stock exchange 	<ul style="list-style-type: none"> • Digitized format • Proprietary format • Unformatted text file 	<ul style="list-style-type: none"> • Proprietary formats
Thailand	<ul style="list-style-type: none"> • Issuer 	<ul style="list-style-type: none"> • Proprietary format 	<ul style="list-style-type: none"> • Proprietary formats
Turkey	<ul style="list-style-type: none"> • Issuer 	<ul style="list-style-type: none"> • Digitized format 	<ul style="list-style-type: none"> • E-mails • ISO 15022 • ISO 20022 • Issuer uses Public Disclosure Platform(PDP) for CA announcements. PDP+CSD converts data to multiple formats and informs relevant parties. • XBRL will be also be used in 2016.

Question 1	How is CA info delivered to you? What is your source of data?	How is the data formatted?	Specify if digitized format
United Kingdom	<ul style="list-style-type: none"> • Data vendor • Issuer agent 	<ul style="list-style-type: none"> • Digitized format • Unformatted text file 	<ul style="list-style-type: none"> • E-mails
Ukraine	<ul style="list-style-type: none"> • CSD (foreign ICSD/CSD for non-domestic securities) • Issuer • Issuer agent 	<ul style="list-style-type: none"> • Digitized format • Proprietary format (in case CSD's proprietary system developed in-house is meant) • Paper form – fax, letter (document of certain format, which is specified by CSD General Terms and Conditions and Customer Handbook) 	<ul style="list-style-type: none"> • ISO 15022 • Proprietary formats (in case CSD's proprietary system developed in-house is meant)
United States	<ul style="list-style-type: none"> • Agent • Data vendor • Issuer • Issuer agent • Newspaper / gazette • Stock exchange • Information is received through a wide variety of sources. 	<ul style="list-style-type: none"> • Digitized format • Proprietary format • PDF, fax, hard copy (US Mail), web searches, etc. 	<ul style="list-style-type: none"> • E-mails • XBRL • Proprietary formats
Vietnam	<ul style="list-style-type: none"> • Issuer 	<ul style="list-style-type: none"> • Proprietary format 	<ul style="list-style-type: none"> • Proprietary formats
Zimbabwe	<ul style="list-style-type: none"> • Issuer agent 	<ul style="list-style-type: none"> • Digitized format 	<ul style="list-style-type: none"> • ISO 15022

Question 2	Is there any local regulation governing the disbursement of CA Data, or is any regulation being considered?	If yes, what is the mandatory information source as per local regulation?
Argentina	Yes	Listed securities' CA information must be released through Stock Exchanges/Markets' means (web based and paper bulletins) Stock Exchanges/Markets and local SEC establish certain rules that issuers must accomplish re the publication of CA information.
Armenia	No	
Australia	No	
Azerbaijan	Yes	The information from issuer
Belgium (Euroclear ESES markets)	No	
Bosnia and Herzegovina (Republic of Srpska)	Yes	Disbursement on CA data is the obligation of the issuer, and for actions which are performed in CSD information is delivered to CSD, while for other CA information is delivered to SE www which is common Capital Market web site
Brazil	Yes	IPE System (a platform owned by the Securities Commission and run by the Stock Exchange)
Bulgaria	Yes	Issuer
Canada	Yes	Publicly listed companies must report in SEDAR
Chile	No	
China	Yes	Different regulators are responsible for different bonds. For example, the National Association of Financial Market Institutional Investors takes charge of the financial instruments for non-financial enterprises and People's Bank of China presides over asset-based securities.
Cyprus	No	
Dubai	Yes	Issuer
Eastern Caribbean	No	
Egypt	Yes	Publication in two widely spread newspapers
Estonia	No	
France (Euroclear ESES markets)	No	
Germany	Yes	Corporate Action events have to be published by the official recognized information providers according to German Stock Company Act (AktG)
Ghana	Yes	CSD Operational rules and CSD Act

Question 2	Is there any local regulation governing the disbursement of CA Data, or is any regulation being considered?	If yes, what is the mandatory information source as per local regulation?
Hong Kong (HKEX)	No	No regulation on the "format" such as "data format". Current regulation only specify the content and timing of CA information.
Hong Kong (HKMA)	No	
India (CDS)	Yes	D&P Regulations, By-Laws and RTA/Issuer Operating Instructions of CDSL
India (NSDL)	Yes	As per one of the clauses of the listing agreement entered by issuers with stock exchanges, the issuer is required to provide corporate action information to stock exchanges.
Indonesia	Yes	Announcement date, recording date, effective/distribution date, exercise ratio, proceed ratio, interest rate for debt instrument.
International Securities Markets (Clearstream Banking acting as ICSD)	Yes	The issuer needs to announce a Corporate Action event either directly or via its agent.
International Securities Markets (Euroclear Bank acting as ICSD)	No	
Ireland	No	
Italy	Yes	Primary source of information on Corporate Actions is the issuer
Kazakhstan	Yes	By-laws of the Kazakstan Government By-laws of the Kazakstan National Bank's Management Board
Kuwait	Yes	Ministry of commerce approval on AGM & CA
Lebanon	No	
Malaysia	Yes	Material information such as distribution of corporate action entitlements
Malta	Yes	Issuer
Montenegro	Yes	Issuer
Morocco	Yes	Issuer / Issuer Agent
Nepal	No	
Netherlands (Euroclear ESES markets)	No	

Question 2	Is there any local regulation governing the disbursement of CA Data, or is any regulation being considered?	If yes, what is the mandatory information source as per local regulation?
Norway	Yes	Company legislation, Oslo Stock exchange and VPS legal framework.
Pakistan	Yes	Issuer
Qatar	Yes	All corporate actions are approved by QFMA - Qatar Financial Markets Authority. QCSD will process CA only on receipt of the approval letter from the QFMA/Issuer.
Russia	Yes	Currently - news agencies Near future - CSD
Singapore	No	
Slovenia	Yes	CSD perspective: CSD is informed by issuer.
South Africa	Yes	Stock Exchange News Service
Switzerland	No	
Taiwan	No	
Thailand	No	
Turkey	Yes	Within the framework of Capital Markets Board of Turkey's (CMB) 'Communiqué Regarding Principles of Submitting Electronically Signed Information, Documents and Notifications to the Public Disclosure Platform', all information and documents (ie. CA announcements, Financial Reports, other disclosure) to be publicly disclosed must be sent to the PDP. more details can be found at : http://kap.gov.tr/en/about-pdp/general-information.aspx

Question 2	Is there any local regulation governing the disbursement of CA Data, or is any regulation being considered?	If yes, what is the mandatory information source as per local regulation?
Ukraine	Yes	<p>In Ukraine NDU performs initial recording of securities in a book-entry system (i.e. provides 'notary service') in respect to all securities, excluding government securities and municipal bonds. Therefore, CSD receives all information on corporate events from an issuer. While depositing a global certificate of a securities issue an issuer also submits its securities issue prospectus, which is considered to be the most reliable source of information regarding corporate actions. According to current Ukrainian legislation, certain corporate events (e.g. income payment, redemption, securities issue cancellation, denomination, conversion, change of securities' nominal value, dividend payment, securities buy-back, sell of bought-back securities, securities placement, drawing-up a list of beneficial owners) are processed centrally by CSD, therefore issuers are obliged to submit information on such corporate events to CSD. On the other hand, it is up to the issuer to decide, whether to submit information on certain corporate events (e.g. GM) to CSD or not. Annual reports, information regarding regular and extraordinary general meetings as well as the relevant agendas can be submitted by an issuer to CSD. In such cases CSD publishes notifications on the forthcoming corporate events on its official website.</p> <p>Information on certain corporate events not handled centrally by CSD (for example, general meeting) can be found on the issuer's corporate web-site and in designated official publications.</p>
United Kingdom	No	
United States	No	
Vietnam	Yes	<ol style="list-style-type: none"> 1. Record Date 2. Settlement Date 3. Settlement Place 4. Settlement Dividends <p>Please refer in details to the Decision No.23/QD-VSD dated 13 March 2015 by Vietnam Securities Depository.</p>
Zimbabwe	No	

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
Argentina	Yes	We are able to transmit info to all our Participants (Written Releases) through electronic means. They can access electronic repositories to reach the relevant information. With some clients we also have SWIFT automated mechanisms, and e-mail alerts to advise of corporate actions. We are not able to receive formatted electronic information from the issuers since this is not the market practice in Argentina	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	We have checks and validations in place	Yes	No
Armenia	Yes	Sending the information via SWIFT message	<ul style="list-style-type: none"> • Mandatory Reorganisations • Mandatory Reorganisations with Options 		Yes	Yes
Australia	Yes	ISO 20022 message produced by ASX.	<ul style="list-style-type: none"> • Cash Distributions: • Securities Distributions • Mandatory Reorganisations 	STP through our system from Issuer to Participant	Yes	We have socialised our solution with other exchanges and CSDs.
Azerbaijan	No				No	

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
Belgium (Euroclear ESES markets)	Yes	We make the information available electronically. This can be 'pulled' in proprietary format or 'pushed' via ISO 15022.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	We have checks and validations in place	No	No
Bosnia and Herzegovina (Republic of Srpska)	No					
Brazil	Yes	The BM&FBOVESPA CSD has an automated interface with IPE system to receive information. The CSD sends information to custodians using proprietary XML messages or Text Files.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations 	<ul style="list-style-type: none"> • STP through our system from Issuer to Participant • We have checks and validations in place 	Yes	No

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
Bulgaria	Yes	Yes. After the CA data is received, CSD generates and provides automatically ISO 15022 information messages to the participants.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	STP through our system from Issuer to Participant	No	No
Canada	Yes	YES; CA information is delivered in ISO 15022, File and documents via web.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations 	<ul style="list-style-type: none"> • STP through our system from Issuer to Participant • We have checks and validations in place 	Yes	No

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
Chile	No	We use email and also, we send the information to our participants through our systems to box emails, but it is not an automated technology to transmit CA information, according to the best practices.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	We have checks and validations in place	No	No
China	Yes	When dealing with information disclosure, we publish the announcement on our website. When an option of the bond is closing, we push the information to our participants directly through our system. As to coupon payment, CCDC is responsible for the disbursement of funds to bondholders.	<ul style="list-style-type: none"> • Cash Distributions • Distributions with options 	STP through our system from Issuer to Participant	Yes	Yes
Cyprus	No		<ul style="list-style-type: none"> • Mandatory Reorganisations 	We have checks and validations in place		

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
Dubai	Yes	Yes via a disclosure dissemination system.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	We have checks and validations in place	Yes	No
Eastern Caribbean	No				Yes	No
Egypt	No					
Estonia	Yes	We send the information to participants via automated SWIFT messages.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Mandatory Reorganisations • Voluntary Reorganisations • Meeting events 	We have checks and validations in place	Yes	No

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
France (Euroclear ESES markets)	Yes	We make the information available electronically. This can be 'pulled' in proprietary format or 'pushed' via ISO 15022.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	We have checks and validations in place	No	No
Germany	Yes	Yes we do, via digitized format (ISO15022) or proprietary format (CASCADE PC).	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	<ul style="list-style-type: none"> • STP through our system from Issuer to Participant • We have checks and validations in place 	Yes	No

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
Ghana	Yes	Secure File Transfer Protocol SFTP		<ul style="list-style-type: none"> • STP through our system from Issuer to Participant • We have checks and validations in place 		
Hong Kong (HKEX)	Yes	On receiving end from issuers - no automated technology. On delivering end to CSD participants - using CSD terminals for on line inquiry, processing and reporting (proprietary system)		We have checks and validations in place	Yes	No
Hong Kong (HKMA)	No					
India (CDS)	Yes	All credits of Corporate Action are given to participants through a download which is available online and at the end of the day.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations 	We have checks and validations in place	No	No

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
India (NSDL)	No		<ul style="list-style-type: none"> • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	We have checks and validations in place	Yes	No
Indonesia	Yes	We send the information to our participants via C-BEST (our core settlement system), email, website,	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Meeting events 	We have checks and validations in place	Yes	No
International Securities Markets (Clearstream Banking acting as ICSD)	Yes	Yes we do, via digitized format (ISO15022) or proprietary format (COL).	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	<ul style="list-style-type: none"> • STP through our system from Issuer to Participant • We have checks and validations in place 	Yes	No

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
International Securities Markets (Euroclear Bank acting as ICSD)	Yes	We gather and compare information from several sources, then send it to our clients by ISO15022 messages or by proprietary messages. We send the information to our clients but also offer the possibility to pull the information from our systems.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	We have checks and validations in place	Yes	
Ireland	Yes	We make the information available electronically. This can be 'pulled' in proprietary format or 'pushed' via ISO 15022.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	We have checks and validations in place	No	No

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
Italy	Yes	Monte Titoli receives CA information directly from the issuer when acting as Issuer CSD and from the foreign Issuer CSD when acting as Investor CSD. In both cases information can be transmitted to participants through SWIFT, proprietary format or via e-mail, depending on the content and the corporate action type. As far as directly held financial instruments are concerned, CA information is transmitted by the issuers through messages called 'Operational Mandates' via MT-X, Monte Titoli's web based platform of knowledge and document management which also allows to upload PDF documents, when needed by the issuers. After receiving the final official information, Monte Titoli sends it to its participants through the so called 'corporate action information messages' including all operating instructions for each single event, specifically identified. Such messages are delivered through: RNI (National Interbank Netw.) / SWIFT / MT-X	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	We have checks and validations in place	Yes	No

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
Kazakhstan	Yes	Information on corporate events is entered by SWIFT-messages through SWIFT and forwarded to clients through the proprietary automated systems AIS 'DRSTSB' and ARM 'e-mail'.	<ul style="list-style-type: none"> • Cash Distributions • Distributions with options • Voluntary Reorganisations • Meeting events 	We have checks and validations in place	Yes	Yes
Kuwait	Yes	Yes	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	We have checks and validations in place	No	No
Lebanon	Yes	Clear, concise information is sent to our participants in a timely manner. The information is sent through SWIFT or email depending on its source and on the event type.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations 	We have checks and validations in place	Yes	No
Malaysia	No				No	No

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
Malta	Yes	CSD does not have participants (direct holding) or account operators. So information is not currently sent using automated technology although we have the capability	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	We have checks and validations in place	Yes	No
Montenegro	Yes	Yes, via automatically generated system alerts and via web site	<ul style="list-style-type: none"> • Securities Distributions • Mandatory Reorganisations 	We have checks and validations in place	No	No

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
Morocco	Yes	MAROCLEAR receives CA information from issuers via fax and letter, and distributes it to participants via notifications at every stage of the corporate action processing : <ul style="list-style-type: none"> • MT 564 Message notifications are sent to all participants who have subscribed for that message • MT 564 PREC When the event is anticipated/created (to all participants) • MT 564 COMP When the event is confirmed (to all participants) • MT 564 REPE When the entitlements are computed (only to those who have eligible balances) 	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations 	We have checks and validations in place	Yes	Yes
Nepal	No				Yes	No

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
Netherlands (Euroclear ESES markets)	Yes	We make the information available electronically. This can be 'pulled' in proprietary format or 'pushed' via ISO 15022.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	We have checks and validations in place	No	No
Norway	Yes	Yes. Issuer Agents use VPS GUI for input. VPS sends information to participants in ISO format. Only a few participants are still using propriety formats to receive CA, but these will not be provided in the new core system going live during Q2 2017. In 2017, all participants will receive CA data in one of the following formats: ISO15x/ISO20x/XML.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	<ul style="list-style-type: none"> • STP through our system from Issuer to Participant • We have checks and validations in place 	No	No

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
Pakistan	Yes	N/A	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Mandatory Reorganisations • Mandatory Reorganisations with Options • Meeting events 	We have checks and validations in place	Yes	No
Qatar	Yes	QCSD receives approval from QFMA in form of a physical letter. QCSD then uses its post trade and custody system to set the CA and disburse the CA benefits	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations 	We have checks and validations in place	No	No
Russia	Yes	<ol style="list-style-type: none"> 1. Publishing on website 2. Sending via SWIFT (ISO15022) 3. Sending via proprietary electronic communication channel (ISO20022) 	<ul style="list-style-type: none"> • Meeting events 	<ul style="list-style-type: none"> • STP through our system from Issuer to Participant • We have checks and validations in place 	Yes	No

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
Singapore	Yes	Yes, the information is STP to our participants via SWIFT	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	STP through our system to from Issuer to Participant	Yes	Yes
Slovenia	No	Yes, CSD transmits this information to its participants. This information is transmitted via e-mails and published on CSD's web site.		We have checks and validations in place	Yes	No

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
South Africa	Yes	The Stock Exchange News Service (SENS) is utilised as an information source (csv format - text file) the corporate action event is then interpreted, captured and messages released to the market. The CSD Strate (PTY) Ltd has the ability to send corporate action information to the CSD Participants, Issuer Agents and Johannesburg Stock Exchange through the use of SWIFT ISO15022 messages. Strate's corporate action system does have the ability to receive information from the source (Johannesburg Stock Exchange) however this functionality is currently not utilised.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations 	We have checks and validations in place	Yes	No

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
Switzerland	Yes	<p>The process starts from the collection of the announcement information in real-time from several data providers and continues with the following activities: Consolidating data and making cross-checks/comparison, enriching data, validating for accuracy and completeness, notifying via SWIFT MT564/568 the impacted clients, following proactively the announcement life cycle (from PREU, PREC to COMP), receiving and processing the payments to client accounts via MT566, making compensation via MT566.</p> <p>We do offer our web-based service tool Corporate Actions Enhanced Services "CAES". In one of its modules, the CAES Events Calendar, our participants are able to see all the Corporate Actions Event Notifications which are released in real-time.</p>	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	<ul style="list-style-type: none"> • STP through our system from Issuer to Participant • We have checks and validations in place 	Yes	N/A; due to confidentiality reasons, we cannot respond to this question.

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
Taiwan	Yes	The automated technology is for book-entry delivery of stock dividends.	<ul style="list-style-type: none"> • Securities Distributions • Mandatory Reorganisations • Meeting events 	We have checks and validations in place	Yes	No
Thailand	Yes	We as CSD will send corporate action information to our participants via SWIFT and via proprietary system.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	<ul style="list-style-type: none"> • STP through our system from Issuer to Participant • We have checks and validations in place 	No	No

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
Turkey	Yes	Public Disclosure Platform (PDP) sends the information with an electronic message to both MKK (CSD) and other data vendors. MKK converts this message to ISO 20022 and 15022 formats and informs custodians and banks via SWIFT + GUI. Also investors are notified by sms messages and email. The workflow and message details are fully compliant with International Securities Services Association (ISSA) Standards in Global Corporate Actions Principles.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	<ul style="list-style-type: none"> • STP through our system from Issuer to Participant • We have checks and validations in place 	Yes	Yes

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
Ukraine	Yes	<p>CSD informs its participants on all CA, for which it provides services. On the grounds of received information from the issuer CSD notifies its customers – custodians and (I)CSDs, and/or launches the corresponding procedure aimed at the corporate event’s processing. CSD receives all information regarding corporate events from an issuer in paper or electronic forms. Certain corporate events (issuer’s buy-back, sell of bought-back securities, securities placement, drawing-up a list of beneficial owners) can be initiated by the issuer electronically by sending the corresponding instruction to CSD by means of CSD’s proprietary data processing system. Those corporate events that are initiated by the issuer on the grounds of an instruction and supplementary documents envisaged by Ukrainian legislation are processed by CSD on the grounds of the mentioned documents in paper form. Those corporate events that are initiated by the issuer on the grounds of an instruction, are processed by CSD on the grounds of the received electronic instruction.</p> <p>For example, in case of income payment and redemption, having received issuer’s instruction to process the corresponding corporate event as well as the necessary documents, and having received due cash proceeds designated for beneficial owners on CSD’s cash account with the Settlement Centre, CSD notifies depository institutions (custodians) and correspondent depositories (foreign (I)CSDs) on income payment and automatically makes cash transference from CSD’s account with the Settlement Centre to depository institutions’/ correspondent depositories’ cash accounts. Currently CSD sends depository institutions notifications on the forthcoming income payment/redemption in hard copy (fax, letters), however, automatic function will be launched within CSD’s proprietary data processing system in the nearest future. CSD sends correspondent depositories notifications on the forthcoming income payment/redemption in electronic form via SWIFT.</p>	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Mandatory Reorganisations • Meeting events 	We have checks and validations in place	Yes	No

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
United Kingdom	Yes	We make the information available electronically. This can be 'pulled' in proprietary format or 'pushed' via ISO 15022.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	We have checks and validations in place	No	No

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
United States	Yes	Information is received from a wide array of sources, in many different formats. Some of these formats are automated and allow for the 'straight through' announcement of information to clients. Information is announced to clients using the ISO 20022 standard, which will be replacing a proprietary format in phases over the next several years.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options 	<ul style="list-style-type: none"> • STP through our system from Issuer to Participant • We have checks and validations in place 	Yes	Yes. DTCC is in the midst of a large 'transformation' effort related to Corporate Actions processing, which has adopted the ISO 20022 messaging standard in place of proprietary file formats. In addition, for a small set of ADR events, DTCC is using XBRL technology to receive the information from the issuer / agent bank. Several ICSDs have contacted DTCC for thought leadership on the adoption of ISO 20022 and global standards to understand if they can also gain efficiencies in this space.

Question 3	Are you able to receive and transmit CA source information using automated technology?	If yes, do you send this information to your participants? Please describe the process.	For which event types can you receive and transmit corporate action information using automated technology?	Flow of events	Willing to partner with other interested markets in delivering the solution?	Are you already in discussion with other markets interested in adopting your solution?
Vietnam	Yes	For issuer: VSD receives and transmits the corporate action information through the original, fax copies. Then, VSD will transmit and process the Corporate Action for issuers. For Depository members: the corporate action information will be distributed and sent to the depository members through VSD's electronic portal.	<ul style="list-style-type: none"> • Cash Distributions • Securities Distributions • Distributions with options • Mandatory Reorganisations • Mandatory Reorganisations with Options • Voluntary Reorganisations • Meeting events 	We have checks and validations in place	No	No
Zimbabwe	Yes	Through the STP gateway adaptor participants can connect and receive messages that are meant for the particular participant	<ul style="list-style-type: none"> • Cash Distributions • Meeting events 	We have checks and validations in place	Yes	Yes

Question 4	Do you face any challenges with attempting to digest information from the CA information source using automated technology?	If yes, please describe the challenges and solutions that have been implemented.
Argentina	<ul style="list-style-type: none"> • Other 	<p>As mentioned above, this is not market practice, and we have experienced a lack of prioritization from the issuers in this kind of projects.</p> <p>Issuers do not have a standardized way of providing information. No fixed fields. Most information is sent to the Stock Exchanges / Markets through letters or notes describing the Event.</p> <p>Many different players must agree on a standardized format to provide/receive information (Stock Exchange/Market, CSD, Issuers, Regulators, etc.).</p> <p>Existence of different identifiers for the same security depending on the involved entity (CSD code, Stock Exchange Ticker, Regulator's internal code). ISIN is not the primary key identifier in the domestic market.</p> <p>Caja is currently assessing alternatives to improve the flow of information related to corporate actions.</p>
Armenia	<ul style="list-style-type: none"> • Engagement with Issuers • Fields incorrectly interpreted • Files formatted incorrectly 	
Australia	No challenges	
Azerbaijan	We don't use automated technology in CA source information	
Belgium (Euroclear ESES markets)		
Bosnia and Herzegovina (Republic of Srpska)	No challenges	
Brazil	<ul style="list-style-type: none"> • Issuer understanding of CSD Participant needs • Interpretation of CA data in a CSD context 	
Bulgaria	<ul style="list-style-type: none"> • Files formatted incorrectly 	<p>In case the fields of web-based form containing CA information are not correctly filled in, a respective message appears on the screen and the CSD system does not process it .</p>

Question 4	Do you face any challenges with attempting to digest information from the CA information source using automated technology?	If yes, please describe the challenges and solutions that have been implemented.
Canada	<ul style="list-style-type: none"> No challenges Data exchange protocols are well defined 	
Chile	<ul style="list-style-type: none"> Engagement with Issuers Issuer understanding of CSD Participant needs Fields incorrectly interpreted 	We are in discussion with our Regulator to establish a compulsory instruction to the issuers to provide directly to the local CSD, the information regarding CA by some automated technology.
China	No challenges	
Cyprus		
Dubai	No challenges	
Eastern Caribbean		
Egypt	No challenges	
Estonia	<ul style="list-style-type: none"> Fields incorrectly interpreted 	Issuers don't understand correctly required fields for CA, as a solution we send error messages (usually via e-mails) to correct data and won't process the CA until we have had correct information.
France (Euroclear ESES markets)		
Germany	<ul style="list-style-type: none"> Engagement with Issuers Issuer understanding of CSD Participant needs Interpretation of CA data in a CSD context Fields incorrectly interpreted Files formatted incorrectly 	From time to time we have constraints with all of the above mentioned items. In the German Market we have the problem that many issuers are acting in this huge market with different standards.
Ghana		
Hong Kong (HKEX)	<ul style="list-style-type: none"> Engagement with Issuers Issuer understanding of CSD Participant needs Interpretation of CA data in a CSD context Fields incorrectly interpreted Files formatted incorrectly 	First challenge is to get issuers agree to distribute CA information in data format for STP processing downstream. CSD is engaging the Exchange (and listing) to consider any possibilities of imposing such requirements on issuers going forward.
Hong Kong (HKMA)		
India (CDS)	No challenges	Not Applicable.
India (NSDL)	<ul style="list-style-type: none"> Engagement with Issuers Issuer understanding of CSD Participant needs 	Enforcement of timelines within which the issuers have to provide the necessary information

Question 4	Do you face any challenges with attempting to digest information from the CA information source using automated technology?	If yes, please describe the challenges and solutions that have been implemented.
Indonesia	<ul style="list-style-type: none"> Engagement with Issuers 	Currently we get the information of CA event from the Exchange's website or a mail from the issuer. We have to re-input CA event detail in our system.
International Securities Markets (Clearstream Banking acting as ICSD)	<ul style="list-style-type: none"> Engagement with Issuers Issuer understanding of CSD Participant needs Interpretation of CA data in a CSD context Fields incorrectly interpreted Files formatted incorrectly 	In our environment we are facing daily issues to receive all information in a timely manner. The structure and the format of information flows are not always in the quality we need in order to process via the global ISO standard. Therefore we also were part of ISMAG to help standardize information flows via templates/SWIFT and to harmonize the process chain of corporate actions processing.
International Securities Markets (Euroclear Bank acting as ICSD)	<ul style="list-style-type: none"> Issuer understanding of CSD Participant needs Files formatted incorrectly 	The need for paperwork may limit the possibility to automate; and for more complex events there is still a need for narratives, which decreases the STP possibilities.
Ireland		
Italy	<ul style="list-style-type: none"> Other: Timing for CA communication 	<p>The CA information/announcement is not always communicated in due course both in the case of CA on directly held securities and in the case of securities held through links with foreign CSDs. In such cases Monte Titoli takes action requesting the communication.</p> <p>No other challenges for directly held securities for which Monte Titoli retrieves information directly from issuers admitted to the system.</p> <p>When financial instruments are held through links with a foreign Issuer CSD, Monte Titoli in its role as Investor CSD has to rely on Issuer CSD also for general meeting announcements. It is likely that these are not received.</p>
Kazakhstan	No challenges	
Kuwait	No challenges	
Lebanon	<ul style="list-style-type: none"> Engagement with Issuers Issuer understanding of CSD Participant needs 	The challenges remain the issuer's obligations towards the custodian concerning the information communication. The solution is the presence of a regulatory system to enhance the relation between issuers and custodian. However, no action has been set in this field.
Malaysia		
Malta	No challenges	N/A

Question 4	Do you face any challenges with attempting to digest information from the CA information source using automated technology?	If yes, please describe the challenges and solutions that have been implemented.
Montenegro	<ul style="list-style-type: none"> No challenges We provide only 'raw' info 	
Morocco	<ul style="list-style-type: none"> Engagement with Issuers Interpretation of CA data in a CSD context Fields incorrectly interpreted No challenges 	
Nepal	<ul style="list-style-type: none"> Issuer understanding of CSD Participant needs 	
Netherlands (Euroclear ESES markets)		
Norway	<ul style="list-style-type: none"> Engagement with Issuers Issuer understanding of CSD Participant needs 	To comply with the CAJWG/JWGGM standards, VPS would need to receive the information at an earlier stage. There are no obligations for the issuer to inform the CSD at the same time as announcement in the market.
Pakistan	<ul style="list-style-type: none"> Issuer understanding of CSD Participant needs Interpretation of CA data in a CSD context Others: implementing STP 	Out of these listed challenges, the major challenge we face is to implement STP. Implementing STP: We send information from issuer to participant and go for announcements. However, up till now we haven't been able to implement STP completely and it is our goal for the future.
Qatar	No challenges	
Russia	<ul style="list-style-type: none"> Engagement with Issuers Issuer understanding of CSD Participant needs Interpretation of CA data in a CSD context 	Challenge: Issuers are used to disclose information in unstructured form. Solution: Consultation with issuers and establishing of rules on regulation level (e.g. additional requirements for disclosure from issuers)
Singapore	<ul style="list-style-type: none"> Engagement with Issuers Files formatted incorrectly 	The challenge is that the issuer is not using the correct template to submit their announcement. There is a continual effort to educate and train the issuers.
Slovenia	No challenges	
South Africa	<ul style="list-style-type: none"> Interpretation of CA data in a CSD context 	Strate has the ability to receive corporate action data from the source of the information (JSE) however this functionality is not currently utilised. The SENS announcements may at times not contain all the corporate action information e.g. terms of the corporate action event that are needed.

Question 4	Do you face any challenges with attempting to digest information from the CA information source using automated technology?	If yes, please describe the challenges and solutions that have been implemented.
Switzerland		Information is reported either via CONNEXOR® from the issuer to the CSD or then in more complex events by banking letters (Bankenschreiben). CONNEXOR® information is automated. Banking letters, however, are to be processed manually. There is a frequent exchange between the issuer agent and SIX SIS as the CSD in order to avoid any misinterpretations.
Taiwan	<ul style="list-style-type: none"> • Engagement with Issuers • Interpretation of CA data in a CSD context • Fields incorrectly interpreted 	
Thailand	<ul style="list-style-type: none"> • Fields incorrectly interpreted 	We normally set up the training session for issuers to understand all file formats.
Turkey	No challenges	Our answer is 'No', but we can explain how we had achieved that. For the Turkish market issuers had to inform the CSD since 2005. But this information is done on the event COMP state. Preliminary announcements were not available. With introduction of Public Disclosure Platform (PDP) to the Turkish market, issuers use a GUI for ca announcements from preliminary to completion stage. The GUI has workflows for different types of CA events and structured fields for data input. PDP and CSD does the conversion to web page, SWIFT, sms, e-mail message. As a result issuer does not face any additional cost or face a problem. PDP will introduce XBRL adoption to PDP in 2016.

Question 4	Do you face any challenges with attempting to digest information from the CA information source using automated technology?	If yes, please describe the challenges and solutions that have been implemented.
Ukraine	<ul style="list-style-type: none"> • Engagement with Issuers • Issuer understanding of CSD Participant needs 	<p>Since recently all Ukrainian issuers are obliged to submit reports to NSSMC in electronic form only. Therefore the number of issuers connected to the System of Electronic Documents Flow (with employment of digital signature) is growing. We expect all issuers to be connected to the System of Electronic Documents Flow in the nearest future, which will result in replacement of issuers' paper instructions submission to CSD by electronic ones.</p> <p>In view of Ukraine's processes aimed at Ukrainian legislation harmonization with best European capital markets practices, we expect enhancement of joint-stock companies' corporate culture.</p> <p>We expect CSD to become a centralized CA center for all issuers' corporate events, which shall be legally binding for all issuers and all issuers' corporate actions.</p>
United Kingdom		
United States	<ul style="list-style-type: none"> • Engagement with Issuers • Issuer understanding of CSD Participant needs • Incenting issuers to automate. 	<p>DTCC has worked with ADR Banks to automate a small set of ADR events using XBRL technology to receive the information from the source (issuer / agent bank).</p>
Vietnam		
Zimbabwe	No challenges	

Question 5	Do you face any challenges related to internal systems or resource constraints when attempting to source the data in a standard electronic format from the corporate action information?	If yes, please describe these internal challenges
Argentina	No	
Armenia	No	
Australia	No	
Azerbaijan	No	
Belgium (Euroclear ESES markets)	No	
Bosnia and Herzegovina (Republic of Srpska)	No	
Brazil		
Bulgaria	No	
Canada	No	
Chile	Yes	We are looking to get standard electronic format from the corporate action information and received by STP process from the issuers.
China	No	
Cyprus		
Dubai	No	
Eastern Caribbean		
Egypt	No	
Estonia	No	
France (Euroclear ESES markets)	No	
Germany	No	
Ghana	No	
Hong Kong (HKEX)	Yes	Necessary conversion into standard format (such as SWIFT format) is needed. Necessary industry template will need to agreed with the market participants.
Hong Kong (HKMA)	No	
India (CDS)	No	
India (NSDL)	No	
Indonesia		The data received from Exchange and issuer do not have standard message format.

Question 5	Do you face any challenges related to internal systems or resource constraints when attempting to source the data in a standard electronic format from the corporate action information?	If yes, please describe these internal challenges
International Securities Markets (Clearstream Banking acting as ICSD)	Yes	As said inbound information is not always of the quality we need in order to process further in a global standardized way. Therefore we implemented internal transformation rules in our cleansing and scrubbing system to come across market constraints.
International Securities Markets (Euroclear Bank acting as ICSD)	Yes	There is a challenge in the automated compare exercise of different sources; field formatting remains as well a challenge and there is always room for improvement.
Ireland	No	
Italy	No	
Kazakhstan	No	
Kuwait	No	
Lebanon	No	
Malaysia	No	
Malta	No	
Montenegro	No	
Morocco	Yes	No challenges related to internal systems to be reported but sometimes we face some delay on CA information transmitted by issuers.
Nepal	No	
Netherlands (Euroclear ESES markets)	No	
Norway	No	
Pakistan	No	
Qatar	No	
Russia	Yes	In some cases internal system must be updated.
Singapore	No	
Slovenia	No	
South Africa	No	

Question 5	Do you face any challenges related to internal systems or resource constraints when attempting to source the data in a standard electronic format from the corporate action information?	If yes, please describe these internal challenges
Switzerland	Yes	Please refer to the challenges mentioned in question 4. If we could also include the more complex events into CONNEXOR®, we would definitely have a higher STP rate which would help to reduce the risk and the manual efforts. Consequently, a further standardization could be achieved.
Taiwan	Yes	
Thailand	No	
Turkey	No	
Ukraine	No	
United Kingdom	No	
United States	Yes	Mapping and technical development is costly.
Vietnam	No	
Zimbabwe	No	

Question 6	If you are not receiving and sending digital event announcements, please describe any plans you have to implement Digitization at Source.
Argentina	We are at the starting point of a joint process together with the Buenos Aires Stock Exchange and the Buenos Aires Stock Market, aiming to create a standardized, automated and electronic single entry point for all the listed securities' CA information. This project is only in the preliminary phase though.
Armenia	
Australia	
Azerbaijan	
Belgium (Euroclear ESES markets)	
Bosnia and Herzegovina (Republic of Srpska)	N/A
Brazil	
Bulgaria	
Canada	
Chile	The only plan is our work with the regulator aforementioned.
China	
Cyprus	
Dubai	
Eastern Caribbean	
Egypt	
Estonia	
France (Euroclear ESES markets)	
Germany	<ul style="list-style-type: none"> • Receiving: We try to standardize inbound information via various sources, e.g. ECSDA, introduce standardized platforms, etc. • Sending: N/A as we send digital event announcements.
Ghana	
Hong Kong (HKEX)	We are discussing with the Exchange and Listing Division on any possibilities of imposing issuers to provide data/digital event announcements by phases. The proposal is still under discussion. No concrete decision is made at the moment.
Hong Kong (HKMA)	The CMU is preparing to implement a corporate action platform to process corporate events in approximately one to two years' time.
India (CDS)	CDSL has arranged with BSE Ltd. who publishes Corporate Action related data of the Issuer. The same is made available to CDSL BO's through their log-ins.
India (NSDL)	NSDL is examining the feasibility of developing an information dissemination feature in respect of corporate actions.

Question 6	If you are not receiving and sending digital event announcements, please describe any plans you have to implement Digitization at Source.
Indonesia	Currently we are enhancing our core business system that will be implemented in 2016. In this new system we will provide the digital event announcement from Exchange or issuer to CSD.
International Securities Markets (Clearstream Banking acting as ICSD)	<ul style="list-style-type: none"> • Receiving: Implementation of international standards like e.g. ISMAG has been introduced. Usage of global platforms and standards. • Sending: N/A as we send digital event announcements
International Securities Markets (Euroclear Bank acting as ICSD)	N/A
Ireland	We are in the early stages of considering this
Italy	No plans at the moment.
Kazakhstan	
Kuwait	Regulators are reviewing and studying best practices to adopt in the future.
Lebanon	<p>Digitization at source can't be achieved without the cooperation of the issuers. Midclear deals with two categories of issuers: Banks and Non-banks:</p> <ul style="list-style-type: none"> • Digitization at source with the banks:To complete digitization at source with the banks, the plan is to work with the colleagues in the IT department in Midclear, which themselves will cooperate with the IT departments in each of the banks acting as issuers, in order to implement a system that receives incoming information from these banks and generates automatic SWIFT messages related to the outstanding event. • Digitization at source with other issuers (Non-banks): When it comes to non-banks, the problem is that these issuers don't have access to the SWIFT and they don't need it to accomplish their business. Therefore, a possible solution would be to appoint a bank that will act as an agent for each issuer. The bank will receive the required information on any upcoming event from the initial issuer and will send it by SWIFT on their behalf. As of this step, the procedure will continue as described in the first case where the issuer is a bank.
Malaysia	There are no plans to implement this currently. The corporate action information received from the issuers are posted at Bursa Malaysia's website for dissemination to the public and investors. Bursa Malaysia do not distribute the corporate action information to the participants.
Malta	We will continue to receive information as today however we will be offering service to Issuers to issue relevant information in ISO 200222 to relevant parties as from June 2015
Montenegro	
Morocco	Our new IT platform improves CA processing and allows receiving / sending digital event announcements. MAROCLEAR has already launched tests on CA in March. The implementation of the new IT platform is planned from mid May.
Nepal	We have not planned this in our market yet. Later, we shall do it with proper action plans.

Question 6	If you are not receiving and sending digital event announcements, please describe any plans you have to implement Digitization at Source.
Netherlands (Euroclear ESES markets)	
Norway	
Pakistan	N/A
Qatar	N/A
Russia	Laws will be changed to provide CSD with opportunity to establish formats and rule for event announcements. Details may be found on dedicated website - http://corpactions.ru/en/
Singapore	NIL
Slovenia	No plans
South Africa	Currently Strate does not receive digital event announcements from source. There are no plans currently in the South African market to implement digitization at source.
Switzerland	N/A; we do receive and send digital event announcements. Accordingly, we do not respond to the following questions.
Taiwan	N/A
Thailand	
Turkey	
Ukraine	
United Kingdom	We are in the early stages of considering this.
United States	DTCC is in the midst of a large 'transformation' effort related to corporate actions processing, which has adopted the ISO 20022 messaging standard in place of proprietary file formats. By 2017, DTCC will have converted all proprietary formats to the ISO 20022 standard. Currently, over half of the proprietary formats are being offered to clients in the ISO 20022 format.
Vietnam	
Zimbabwe	

Question 7	Do you consider the issuers in your market would provide formatted and digitized event data if given a mechanism to do so?	If no, please share your view on why.
Argentina	Yes	
Armenia	Yes	
Australia	Yes	
Azerbaijan	No	The issuers prefer paper format.
Belgium (Euroclear ESES markets)	No	We believe that issuers are not interested, however, issuer agents may be interested to invest in automation of data provision.
Bosnia and Herzegovina (Republic of Srpska)	Yes	
Brazil	Yes	
Bulgaria	Yes	
Canada	Yes	
Chile	No	Probably voluntary will be complicated by cost and also technological capabilities to some of them.
China	Yes	
Cyprus	No	
Dubai	Yes	
Eastern Caribbean	Yes	
Egypt	Yes	
Estonia	Yes	
France (Euroclear ESES markets)	No	We believe that issuers are not interested, however, issuer agents may be interested to invest in automation of data provision.
Germany	Yes	
Ghana	Yes	
Hong Kong (HKEX)	Yes	It depends on event types. We believe issuers do see benefits to the market by providing digitized event data for quicker turnaround/ STP downstream for simple events like cash distribution. For other voluntary events, they may have a bit more concern in terms of whether the digitized format can capture 'all' relevant information or disclaimer/disclosure that investors need to read and the corresponding liabilities including those cases where 'clerical' mistake is made when doing the input.

Question 7	Do you consider the issuers in your market would provide formatted and digitized event data if given a mechanism to do so?	If no, please share your view on why.
Hong Kong (HKMA)	Yes	
India (CDS)	Yes	
India (NSDL)	Yes	
Indonesia	Yes	
International Securities Markets (Clearstream Banking acting as ICSD)	Yes	
International Securities Markets (Euroclear Bank acting as ICSD)		NA for ICSD's; and we believe it would not be the issuer but the issuer's agent that would invest in information automation.
Ireland	No	This would require them to be heavily influenced of this practice to be mandated.
Italy		Monte Titoli is not aware of such an intention on the part of issuers in the Italian market.
Kazakhstan		
Kuwait	No	Local rules and regulations plus old known adopted processes are hard to change in addition to high costs.
Lebanon	No	Midclear deals with 2 types of issuers: 1. The Lebanese banks: Being SWIFT subscribers, they would provide formatted and digitized event data if given a mechanism to do so. 2. All other issuers: Not SWIFT subscribers, even with the presence of a mechanism they would continue with their current procedure.
Malaysia	No	cost
Malta	Yes	
Montenegro	Yes	
Morocco	Yes	
Nepal	Yes	
Netherlands (Euroclear ESES markets)	No	We believe that issuers are not interested, however, issuer agents may be interested to invest in automation of data provision.

Question 7	Do you consider the issuers in your market would provide formatted and digitized event data if given a mechanism to do so?	If no, please share your view on why.
Norway	No	Yes and no. Issuers have many legal obligations and when short of time, the legal obligations are prioritised. There have been great improvements because of encouragement from the Norwegian market that VPS receives information from issuer agents at an earlier stage, but there is still some room for further improvements.
Pakistan	Yes	
Qatar	Yes	
Russia	Yes	
Singapore	Yes	
Slovenia	Yes	
South Africa	Yes	
Switzerland	See question 6	
Taiwan	No	It is mandatory that issuers have to input event announcement and other required information to the Market Observation Post System (MOPS). Market participants can acquire CA sources through MOPS.
Thailand	Yes	
Turkey	No	<p>For the 7th question there are two answers. First of all we have to identify 'issuer'.</p> <p>If the issuer is a custodian bank which issues DR's, the answer is Yes.</p> <p>DR issuers send more than hundreds of CA information on a yearly basis. Investing in formatted and digitized event data distribution can also be an effective solution for them.</p> <p>If the issuer is a company, it will not have more than 2-3 events in a year. As a result formatted and digitized event data distribution will not be an effective solution for them. A single source GUI for data input and converting data by the service provider is an effective solution for these kinds of issuers.</p>
Ukraine	Yes	
United Kingdom	No	This would require them to be heavily influenced of this practice to be mandated.

Question 7	Do you consider the issuers in your market would provide formatted and digitized event data if given a mechanism to do so?	If no, please share your view on why.
United States	No	While this is not beyond the realm of possibility, issuers would need an incentive and / or a regulatory mandate to change their current process.
Vietnam	Yes	
Zimbabwe	Yes	

Question 8	Do issuers in your market recognize the benefits from Digitization at Source?
Argentina	No
Armenia	Yes
Australia	Yes
Azerbaijan	No
Belgium (Euroclear ESES markets)	No
Bosnia and Herzegovina (Republic of Srpska)	N/A
Brazil	No, for them it is just a cost
Bulgaria	Yes
Canada	Yes
Chile	Yes
China	Yes
Cyprus	Yes
Dubai	Yes
Eastern Caribbean	Yes
Egypt	Yes
Estonia	Yes
France (Euroclear ESES markets)	No
Germany	Yes, we have e.g. an automatic redemption process (ARP) which handles up to 20'000 redemptions a day.
Ghana	Yes
Hong Kong (HKEX)	Yes
Hong Kong (HKMA)	Yes
India (CDS)	Yes
India (NSDL)	No
Indonesia	Yes
International Securities Markets (Clearstream Banking acting as ICSD)	Yes
International Securities Markets (Euroclear Bank acting as ICSD)	But the issuers' agents certainly do.

Question 8	Do issuers in your market recognize the benefits from Digitization at Source?
Ireland	No, they do not have much involvement in the CSD environment as this activity is intermediated by a Registrar.
Italy	Monte Titoli is not aware of such an acknowledgement by the issuers in the Italian market.
Kazakhstan	
Kuwait	No
Lebanon	No
Malaysia	
Malta	Yes
Montenegro	No
Morocco	Yes
Nepal	Yes
Netherlands (Euroclear ESES markets)	No
Norway	Yes. However, they focus on direct holding investors, and not the nominee chain. Most Norwegian investors use digitalised mechanism (eg. retrieve/receive information through their bank's web services from which they have received it from VPS systems.) VPS also provide services for direct holding investors to elect in an Open offer type of event online/web as long as the event manager has decided to use this mechanism.
Pakistan	Yes
Qatar	No, cannot comment on this.
Russia	Yes, some of them recognize and some do not.
Singapore	Yes
Slovenia	No
South Africa	Yes
Switzerland	See question 6
Taiwan	Yes
Thailand	Yes
Turkey	Yes
Ukraine	
United Kingdom	No, they do not have much involvement in the CSD environment as this activity is intermediated by a Registrar.
United States	No. Issuers might know of the benefits this could bring further down the line, as the information ultimately makes its way to the end investor, but the benefit to the issuer itself, if any, might not be known to them. The engagement of the issuer community is a challenge.
Vietnam	
Zimbabwe	Yes

Question 9	Can ISSA help in achieving Digitization at Source in your market?	How can ISSA help?
Argentina	No	
Armenia	Yes	The necessary facilities should be created in the market. The details of collaboration can be discussed.
Australia	No	
Azerbaijan	Yes	ISSA can send us the best proposals.
Belgium (Euroclear ESES markets)	No	
Bosnia and Herzegovina (Republic of Srpska)	No	
Brazil	No	
Bulgaria	No	
Canada	Yes	
Chile	Yes	Promoting the Digitization at Source as a best practice and also as a recommendation maybe in the CPSS IOSCO principles.
China	No	
Cyprus	Yes	
Dubai	No	<ol style="list-style-type: none"> 1. Publish the various options available in how CA is handled in the different markets around the world. 2. A description on what the most ideal model for market participants should be like according to [1] markets with a national CSD; [2] markets without a national CSD and [3] CSDs with 'unsegregated' and 'segregated' account structures.
Eastern Caribbean	Yes	
Egypt	No	
Estonia	No	
France (Euroclear ESES markets)	No	
Germany	Yes	ISSA might help in introducing global standards, templates, recommendations, etc. The usage of electronic common platforms would enable a more straight forward process across various parties.

Question 9	Can ISSA help in achieving Digitization at Source in your market?	How can ISSA help?
Ghana		
Hong Kong (HKEX)	Yes	Sharing information on 1. Statistics and approaches adopted in other markets. Success factors, challenges and methods adopted to ensure full compliance. 2. System vendors that assist each market in building the STP process.
Hong Kong (HKMA)	No	
India (CDS)	No	
India (NSDL)	Yes	ISSA can share information of other markets which have implemented automation and STP in disseminating corporate action information.
Indonesia	Yes	Provide us the consultancy in digitization of CA event announcement.
International Securities Markets (Clearstream Banking acting as ICSD)	Yes	ISSA might help in introducing global standards, templates, recommendations, etc. The usage of electronic common platforms would enable a more straight forward process across various parties.
International Securities Markets (Euroclear Bank acting as ICSD)		NA for ICSD's as already well in place; although we believe improvement is always possible.
Ireland	No	
Italy		Help will be very welcome as soon as the Italian market becomes interested in the digitization at source process.
Kazakhstan		
Kuwait	No	
Lebanon	No	
Malaysia		The brokers and custodian banks source their corporate action information from the information vendors/service providers. ISSA may seek feedback from these participants on any value service that it can offer.
Malta	Yes	Standardisation of information/technology used
Montenegro	Yes	Facilitating the transfer of practical experience from the developed markets
Morocco	Yes	
Nepal	Yes	ISSA can help by promoting the concept in our market. Subsequently, new technology can be prepared for digitization.

Question 9	Can ISSA help in achieving Digitization at Source in your market?	How can ISSA help?
Netherlands (Euroclear ESES markets)	No	
Norway	No	
Pakistan	No	
Qatar	No	QCSD is not the only stakeholder in the entire corporate action process. It needs to be discussed among all participants such as QFMA, Issuers etc.
Russia	Yes	Advertising of ISSA and international standards on Russian market.
Singapore	No	We have already achieved Digitization at Source in our market.
Slovenia	No	
South Africa	Yes	ISSA may be able to assist with digitization at source however this needs to be channelled with agreement through the appropriate market structure and regulation.
Switzerland	See question 6	
Taiwan		
Thailand	No	
Turkey	No	We are currently working on XBRL adoption of PDP. We will appreciate any kind of input about this subject.
Ukraine	Yes	Sharing detailed info on the best practices and solutions already in place for Digitization and standardization of CA info; more researches (besides Digitization), practical trainings.
United Kingdom	No	
United States	No	Widespread digitization at source will likely only come via a mandate from the local regulators (SEC), and would have to take into consideration the development costs to both the issuers and consumers of the data.
Vietnam		
Zimbabwe	Yes	By providing technical solutions that can assist in automating information exchange between the issuer, issuer agent and the depository.

6. Working Group Members

John Kirkpatrick / Brian Crabtree, Citi (Chair)

Rodd Kingham, ASX

Alejandro Berney, Caja de Valores S.A.

Martin Paladino, Caja de Valores S.A.

Richard Doran, Citi

Dean Little, Citi

Simona Gaffarelli, Clearstream

Constanze Grün, Clearstream

Andy Callow, Computershare

Patrick Barthel, DTCC

Joyce Rosen, DTCC

Dominique De Backer, Euroclear

Christophe Delbrouck, Euroclear

Quinnie Luong, Fidelity ActionsXchange

Urs Stähli, ISSA CEO Office

Maria Krasnova, NSD

Irene Mermigidis, Regis-TR, Chair Operating Committee

Olivier Connan, SWIFT