



# ***2022 FIA Industry-Wide Disaster Recovery Test***

## ***Summary Report***

***December 16, 2021***

### A. Background

The futures industry completed its 19th annual FIA Disaster Recovery Test on Saturday, October 15<sup>th</sup>, 2022. The origin of the annual exercise, an initiative of the FIA Market Technology division, began shortly after the events and aftermath of September 11<sup>th</sup>, 2001.

The first disaster recovery test took place on October 9<sup>th</sup>, 2004. The exercise has since expanded and remains an extraordinary example of collaborative efforts across the futures industry.

The first FIA Disaster Recovery Test (2004):

<https://web.archive.org/web/20041012081931/http://www.futuresindustry.org/disaster-2450.asp>

From the outset, the scope of the disaster recovery test has been focused on testing business continuance, process recovery, connectivity, and functionality between exchanges, clearinghouses, and member firms by:

- Verifying firms' ability to test business continuity from alternate work recovery sites (the people side)
- Testing firm back-up sites to exchange and clearinghouse back-up sites (DR-to-DR)
- Verifying connectivity and process recovery
- Testing round-trip communications capabilities

The test continues to be an effective method for practicing resilience and learning from issues that arise as we simulate reaction to a system outage. Participants develop muscle memory for business continuity processes and procedures, preparing for future real-world incidents, and continue to improve and learn from successes and failures.

The FIA exercise remains a coordinated industry effort and participation is open to members and non-members alike, including:

- Exchanges
- Clearinghouses
- Futures Commission Merchants (FCMs)
- Clearing firms
- Non-clearing firms
- Key service providers
- Independent software vendors

As technology and the industry evolve, the annual disaster recovery test remains a valuable apparatus for the industry to assess its response to potential disaster scenarios.

### B. Executive Summary

FIA's industry-wide disaster recovery test took place on October 15<sup>th</sup>, 2022. The exercise was a success, in that the primary objective to test connectivity and operation of systems, under a simulated disruption scenario, was fulfilled.

- In 2022, between 72% and 100% of firms tested successfully, across the various exchanges, meaning that firms were able to successfully fulfill, from end-to-end, the instructions outlined within test scripts provided by exchanges and clearinghouses. The majority of markets had success rates in the 90-percentile range.
- Representatives from 19 major U.S. and international futures exchanges and clearinghouses, participated in the 2022 disaster recovery test.
- Representatives from FCMs, vendors/third-parties, prop trading firms, regulators, and other supporting entities, also participated as follows:
  - 47 FCMs
  - 7 vendors & third parties
  - 5 prop trading firms
  - 1 regulator
- The exchanges and clearinghouses demonstrated that their systems, processes, and procedures simultaneously worked well, communicating from back-up systems and sites. Firms and exchanges also tested the “people side” of their business continuance capabilities, as well as the disaster resilience and recovery of their systems infrastructure.
- Test orchestration, facilitation and order entry was conducted from alternate work sites, as well as disaster recovery data centers.
- Testing from alternate work sites is customary and expected during the disaster recovery test, however, as in 2020 and 2021, there were a number of firms with staff working remotely during the test.
- Test participation, including alternate work sites (reported), were geographically dispersed within the United States, Canadian Provinces, and globally in numerous other countries.
  - United States and Canadian Cities/Provinces:
    - Arizona / California / Colorado / Connecticut / Florida / Georgia / Hawaii / Illinois / Indiana / Maryland / Minnesota / Missouri / New Jersey / New York / North Carolina / Tennessee / Texas / Virginia
    - Montreal (Quebec) / Toronto (Ontario) / Vancouver (British Columbia)
  - Additional Countries:
    - France / Germany / Hungary / India / Ireland / Israel / Poland / Singapore / Spain / Tunisia / United Arab Emirates / United Kingdom

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Firms have indicated that the test helps them to:

- Exercise their business continuance/disaster resilience plans
- Identify internal and external single points of failure
- Test other in-house applications and systems at the same time
- Tighten up and improve the documentation of their business continuity procedures
- Better understand the need for cross-training
- Test connectivity to exchange/clearinghouse and/or SEFs DR sites

The success of the disaster recovery test reflects the coordination and working relationships between a multitude of exchanges, clearinghouses, firms, and service providers -- maintaining an established forum for participants to discuss respective responses to systemic market disruptions.

The scope of additional business continuance activities by participants, in respect to the exercise, includes:

- Relocating staff and test management to alternate work sites
- Managing the test from alternate sites or home locations
- Failing-over missing critical systems and remaining in back-up mode for longer than the test duration
- Conducting other BCM activities such as cross training and updating relevant documentation and procedures

As in prior years, respondents indicated that multiple departments were involved with the planning and execution of the test, and that separate teams also staffed the SIFMA Disaster Recovery Test, which occurred on the same day as the FIA test in 2022.

### C. 2022 Test Overview and Milestones

An invite to a June 22<sup>nd</sup> kick-off call was distributed on June 10<sup>th</sup>. The call, consisting of personnel from an array of FCMs, exchanges, clearinghouses, and service providers, met to discuss objectives for the 2022 exercise. Past participants were encouraged to add new colleagues to the distribution list.

Conference calls took place monthly from June to November, concluding with a post-mortem on November 9<sup>th</sup>.

Anticipated release dates for test scripts were listed on the FIA website, as provided by each individual exchange and clearinghouse.

A webinar-style briefing was held on August 24<sup>th</sup>, for the exchanges and clearinghouses to present details on their tests, which included details on trade dates and options for pre-testing.

Test registration opened on August 2<sup>nd</sup>. Participants were encouraged to register early to ensure that they received all pertinent communications. The process for registration mirrored that of 2021, uniting the old FIA DR Test registration process with that of other FIA events – a hybrid registration model was used, requiring a two-step process to register. We hope to fully integrate this process in 2023, to reduce the number of steps.

The FIA set a deadline of October 7<sup>th</sup> for online test registration to be completed. Those seeking to register thereafter were required to register manually.

On October 15<sup>th</sup>, the FIA Disaster Recovery Test took place, and an all-day conference bridge was provided to facilitate communication. A kick-off call occurred at 8:30am Eastern Standard Time, and the test officially started at 9:00am Eastern Standard Time for several entities, however, this varied based on time zone. The test was already underway in earlier time zones and would start later in other time zones.

A post-test survey was distributed to participants on October 27<sup>th</sup>. The survey was designed to capture thoughts and feedback regarding issues experienced, and to improve upon various aspects of testing. Survey results and feedback are included on Page 10 of this report.

A post-mortem call was held on November 9<sup>th</sup> to present survey feedback, and to discuss how best to improve and support the test going forward.

#### D. Test Participant Details

The following futures markets participated in the 2022 Test:

- Bitnomial Exchange
- Canadian Derivatives Clearing Corporation
- Cboe Futures Exchange
- Cboe SEF
- CME Group
- Coinbase
- Dubai Mercantile Exchange
- Eurex
- Euronext
- ICE Clear Credit
- ICE Clear EU
- ICE Clear US
- ICE Clear Singapore
- ICE Derivatives Exchange
- Minneapolis Grain Exchange
- Montreal Exchange
- Nodal Exchange
- Options Clearing Corporation
- Small Exchange

Test participants also included 47 FCMs, 7 vendors/third parties, 5 prop trading firms and a regulator.

Between 50% and 100% of member futures clearing firms participated, across the various exchanges/clearinghouses.

Participating firms represent a significant critical mass of derivatives order flow and liquidity at the major exchanges; 60% to 93% of exchanges' volume.

The National Futures Association also successfully received regulatory file uploads from an exchange for which it performs outsourced regulatory compliance.

Traiana successfully performed credit checking services with FCMs via its Limit Hub.

The test was also supported by the following major third-party service providers:

- CQG
- FIS Global
- ION Group
- Refinitiv
- Trading Technologies
- Traiana

### E. Participant Feedback

Post-mortem feedback was provided through the following three mechanisms:

- DR Test Results Form completed by the exchanges
- Post-mortem conference call feedback and discussion
- Direct participant feedback from the post-mortem survey
- Direct participant feedback via email

Responses from these mechanisms, are categorized in the following sections:

- Problems Encountered
- Lessons Learned and Suggested Next Steps

Although the sections mentioned above can tend to focus on unfavorable outcomes or aspects from the DR Test, there were several positive comments and reflections pointed out, as well. Survey results and feedback are included on Page 10 of this report.

### F. Problems Encountered (based on survey responses)

Several problems and issues tend to arise during testing, as well as, in preparation for test day. We attempt to capture and categorize these issues to improve upon future coordination and testing. The entirety of feedback and survey results begin on Page 10 of this report.

- Communication – clarity of instructions/objectives/expectations, timing of distributed information, test day communications to help desk, test status, etc.
- Instructions (test scripts) – inconsistent/non-standard across exchanges and clearing organizations, etc.
- Process failures – missed steps, permissions/access, incomplete testing, etc.
- Resource-management – knowledge, staffing, time, etc.
- Status page – status not properly reflected, timeliness of updates, missing entities, etc.
- Technical issues – configuration, connectivity, not using proper connection details, etc.
- Time limits / Timetables / Delays – managing different timelines, domino effect of delays.
- Vendor-related – coordination, communication, etc.

### G. Lessons Learned and Suggested Next Steps (based on survey responses)

Feedback on lessons learned and suggested modifications are the starting place for improvements to future DR tests. The entirety of feedback and survey results begin on Page 10 of this report.

- Should consider a group chat component along with the Test Day conference bridge, for those that are permitted to use such a service. May help to communicate test progression and exchange/clearing status better, as well as provide timestamps for progress/status.

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- There are too many variations of test scripts. It is proposed that there be more standardization in format across the exchanges and clearing organizations. It has been pointed out that SIFMA has a test script requirement regarding format that works well.
- Test scripts should be more specific regarding what test activities are required, versus being open-ended, with clear instructions/objectives.
- Test script distribution needs to improve and should be available early in the test preparation process, instead of late. On a similar note, Test Day instructions for participants should be distributed in a timely manner.
- Prefer FIA emails for scheduled calls be sent as meeting invites.
- It is important to have proper contact information listed on registration forms and on the exchange/clearing contact spreadsheet, that an escalation matrix is shared, and that there is finer distinction on roles and responsibilities. Need to specify which contacts are performing the testing on Test Day.
- It would be helpful to add third-party service providers to the Test registration form, similar to how on SIFMA registration you can select which service bureau is used.
- It would be ideal if exchange/clearing participants could update their own statuses in real-time on Test Day. ISVs should provide a status, as well.
- While DR-to-DR is not a likely scenario, there is still value in having all parties practice and establish a muscle memory for utilizing backup connections.
- CME having a dedicated staff member to each firm was a highlight, and if feasible a model to consider for managing people resources...
- Pre-testing remains an important component to resolving connectivity issues prior to Test Day, and participation is highly encouraged.
- The DR Test status page does not currently convey enough information, nor does it communicate the readiness of ISVs. Also, traffic light colors mean different things at different times during testing.
- We may consider reducing the number of meetings/conference calls prior to Test Day, as long we maintain good communication via other methods.
- We should aim to improve Test Day timelines where possible, i.e. - is an earlier start time feasible, etc.
- Besides good technical preparation, multiply the opportunities to ensure and validate that all participants are effectively on par with all the specific details of the exercise (including the timeline for various activities), and the channels/media at their disposal to help manage the day.

### I. 2023 FIA Disaster Recovery Test

The 2023 FIA Disaster Recovery Test will take place on Saturday, October 14<sup>th</sup>, 2023.

The 2023 SIFMA Disaster Recovery Test will also take place on Saturday, October 14<sup>th</sup>, 2023.

- SIFMA Industry-Wide Disaster Recovery Test:  
<https://www.sifma.org/resources/general/industry-wide-business-continuity-test/>



## J. Acknowledgements

The FIA would like to thank all participants from the FCMs, exchanges, clearing houses, key service providers, and other supporting entities, for their participation throughout the year, and for their continued feedback during conference calls, on the test results form, and on the post-mortem survey. Thank you to all who have contributed their time and resources to improve the FIA test going forward.

Please submit additional feedback/questions to Steve Proctor at [sproctor@fia.org](mailto:sproctor@fia.org).

## Survey Results and Feedback

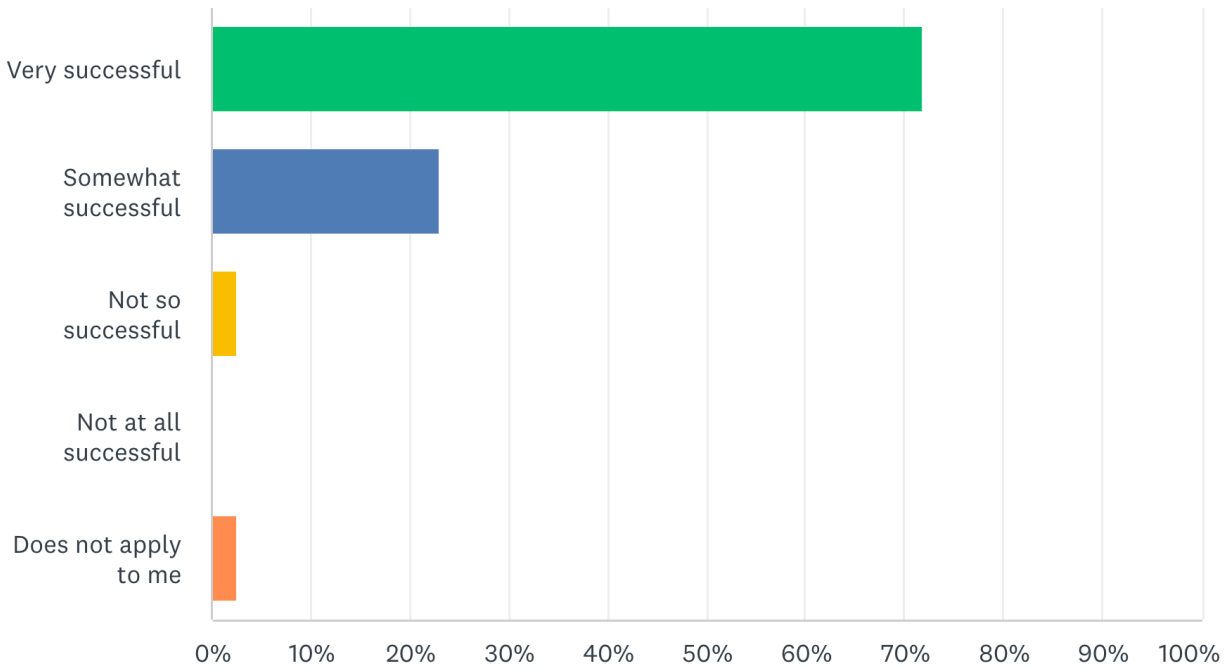


**Survey Results and Feedback:**

A post-test survey was distributed to participants on October 27<sup>th</sup>, 2022. There were 39 survey submissions. The following are the questions and corresponding responses. Thank you to all who participated and provided feedback!

**Question 1**

To what extent would you consider your Test Day a success/non-success?



ANSWER CHOICES	RESPONSES
Very successful	71.79% 28
Somewhat successful	23.08% 9
Not so successful	2.56% 1
Not at all successful	0.00% 0
Does not apply to me	2.56% 1
<b>TOTAL</b>	<b>39</b>

**Question 2**

(Optional) Please explain your answer to Question 1, regarding Test Day Success. For example, was it a success due to it being a straightforward test with no issues, or was it a success due to finding or experiencing issues that can be addressed going forward, etc.?

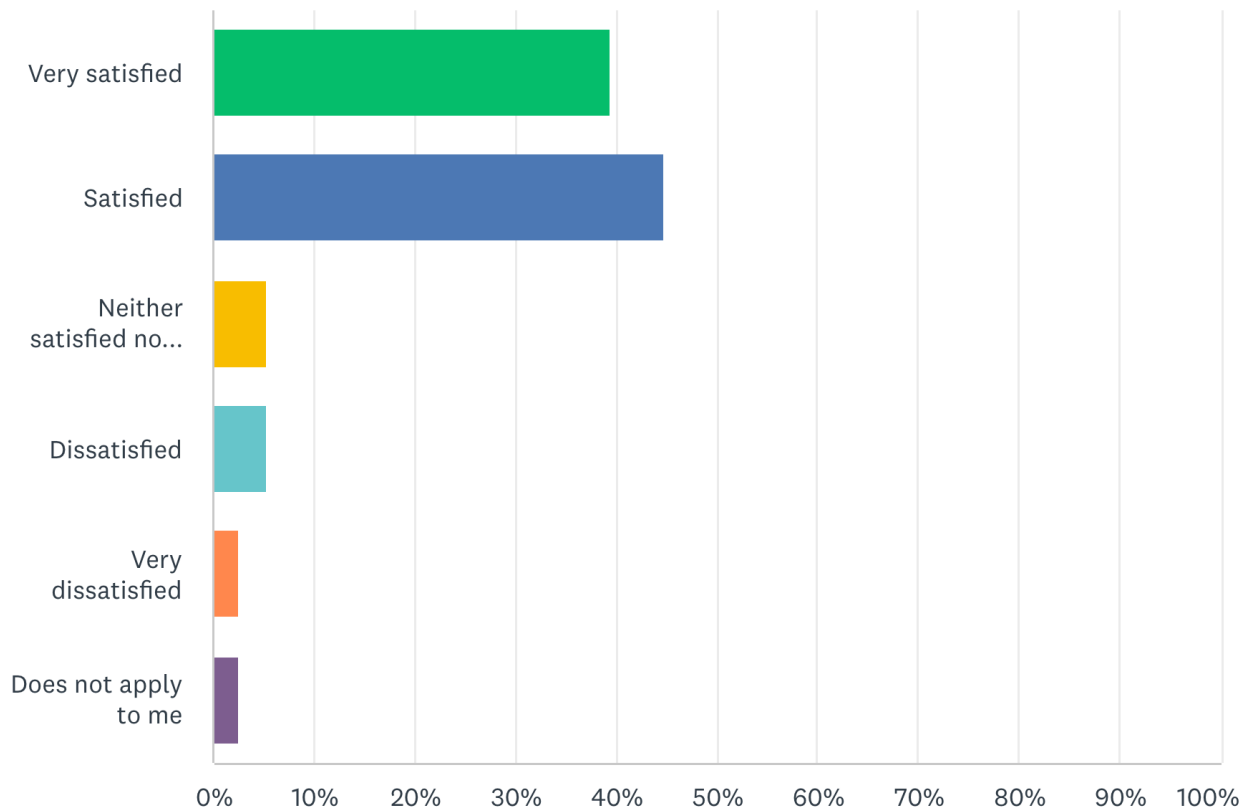
- No issues with testing
- The CME phase 1 part has had issues for the past several years. Is there a plan to get it to work? The Nodal exchange had its own call and was not green before the end of their test window. Can we have only one call with all exchanges participating?
- Testing for OCC was unsuccessful: RBC notified ION that trades are visible in OCC Clearing but the messages were not sent to the middle office system/SEALS. After discussing with OCC and ION on call, it was concluded that due to issues at OCC's end they failed to provide the messages required for making the test successful.
- It was a success due to it being straight forward with no issues.
- Everything performed as expected
- Straightforward, no issues.
- The FIA test bring value to our firm to ensure that there is resiliency via a direct external test, often dusting off inactive connections, that are often not paid much attention to, until they are needed.
- It was successful in that we identified issues for the future and were still able to complete the primary objectives of the test which were operating out a DR environment and validating connectivity to and from that DR environment.
- Unlike other years, the connectivity and participation were much more seamless with less configuration or troubleshooting issues, both internally to ourselves, as well as with working with venues/exchanges
- Network Connectivity with our order routing providers encountered. Issues being investigated and progressed
- Straightforward test with no issues
- Our firm was able to execute all in scope test cases.
- We were able to test successfully most market participants, but for 2 vendors which had issues this year that impacted our ability to perform or complete the test.
- We had two issues that we expect to resolve before a future failover.

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- Trading Technologies were unable to provide ICEUS connectivity. Would like to know why.
- A little of both. Our plan is to failover from our primary to our secondary within 30 minutes. We met that goal. This was actually the cleanest of tests in terms of failover processing that we ever experienced.
- Test was well communicated, and day of test call, people were responsive when issues were brought up.
- CME double switch seems to have problems for a few years running, also Nodal switched and ended prior to confirmations, OCC had issues.
- Successful in both finding issues as well as providing evidence that failovers will work in a production environment.

### Question 3

To what extent were you satisfied/dissatisfied with Test Day windows (Testing availability)?



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ANSWER CHOICES	RESPONSES	
▼ Very satisfied	39.47%	15
▼ Satisfied	44.74%	17
▼ Neither satisfied nor dissatisfied	5.26%	2
▼ Dissatisfied	5.26%	2
▼ Very dissatisfied	2.63%	1
▼ Does not apply to me	2.63%	1
<b>TOTAL</b>		<b>38</b>

### Question 4

(Optional) Please explain your answer to Question 3, regarding Current Test Day Windows. For example, were test day windows as expected and/or did you find extensions of test day windows sufficient, etc.?

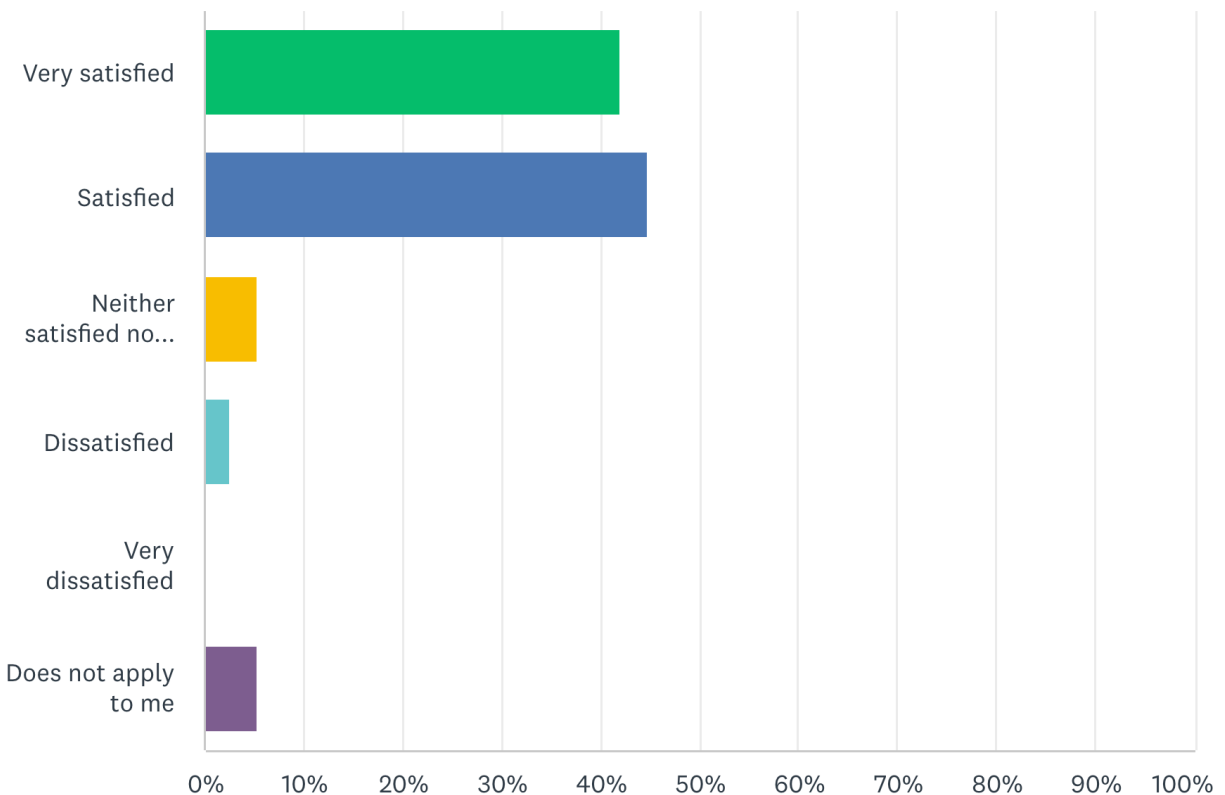
- The Nodal exchange had its own call and was not green before the end of their test window.
- Testing for OCC was unsuccessful due to issues at OCC's end, and they failed to provide the messages required for making the test successful.
- The test day windows was as expected, based on our expectations.
- The test windows were as expected and allowed time to complete the necessary tasks without being hurried.
- I think there were some people who wanted more time, but there was enough time generally.
- It still feels a bit disconnected leading up to the event with venues and exchanges that require ping or basic network tests, if you are clearing, trading, or both, etc... That communication and understanding could be made better to know how best to participate.
- Somewhat dissatisfied that OCC testing completion ran as late in the day/evening as it did, with understanding that 'things happen'.
- Day is difficult to manage as exchanges have different time lines and provide different tests.

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- When there are CCP/Exchange issues our resources are consumed to figuring out the problem or reacting to the issue. This takes valuable time away from other FR test activities and thus squeezing the timetables.
- The test window was shortened due to technical issues on the vendor side. At the same time, expectations from my testers were to complete the test by noon or 1pm. Not all testers were able to extend their presence beyond 1 o'clock.
- CME double switch seems to have problems for a few years running, also Nodal switched and ended prior to confirmations, OCC had issues.
- Exchanges need to better coordinate time for the exercise instead of having disparate times which elongates the testing day.

### Question 5

To what extent were you satisfied/dissatisfied with Test Day staffing levels and preparedness of corresponding participant organizations?



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ANSWER CHOICES	RESPONSES	
▼ Very satisfied	42.11%	16
▼ Satisfied	44.74%	17
▼ Neither satisfied nor dissatisfied	5.26%	2
▼ Dissatisfied	2.63%	1
▼ Very dissatisfied	0.00%	0
▼ Does not apply to me	5.26%	2
<b>TOTAL</b>		<b>38</b>

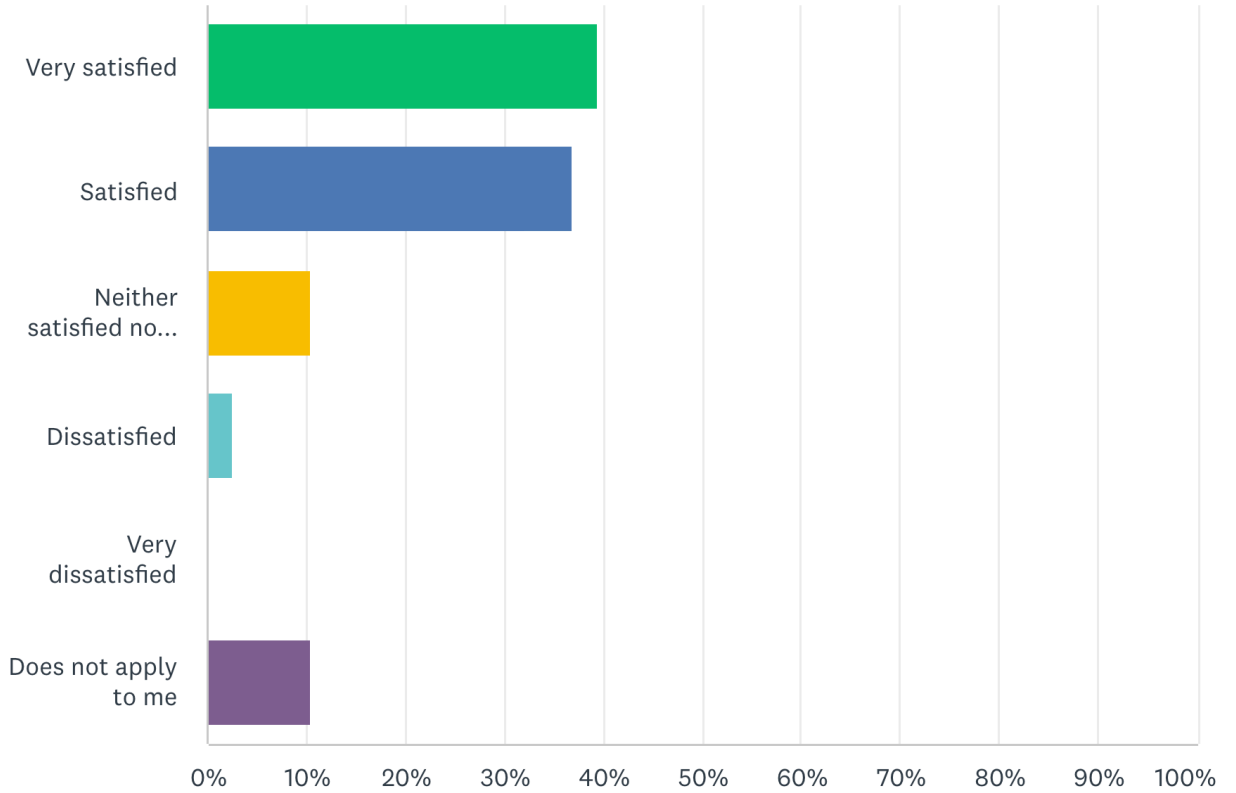
### Question 6

(Optional) Please explain your answer to Question 5, regarding Test Day Staffing.

- It took a long time when trying to get some exchanges to help.
- Testing for OCC was unsuccessful due to issues at OCC's end and they failed to provide the messages required for making the test successful.
- Everyone was prepared and knowledgeable. Even though we didn't have any questions, listening to the conversations, it seemed as though the answers to other firms questions were quick and concise.
- My calls were answered on the first try and I didn't wait to perform any of my tasks.
- No issues on that day re: staffing
- CME having a dedicated staff member to each firm is the model other CCPs should have.
- We had most of our mandatory participants engage. I'd like to meet a goal where we have more participation on these tests. Staffing on our side was no issue.

**Question 7**

To what extent were you satisfied/dissatisfied with the format of, and information contained in Test Scripts?



ANSWER CHOICES	RESPONSES
Very satisfied	39.47% 15
Satisfied	36.84% 14
Neither satisfied nor dissatisfied	10.53% 4
Dissatisfied	2.63% 1
Very dissatisfied	0.00% 0
Does not apply to me	10.53% 4
<b>TOTAL</b>	<b>38</b>



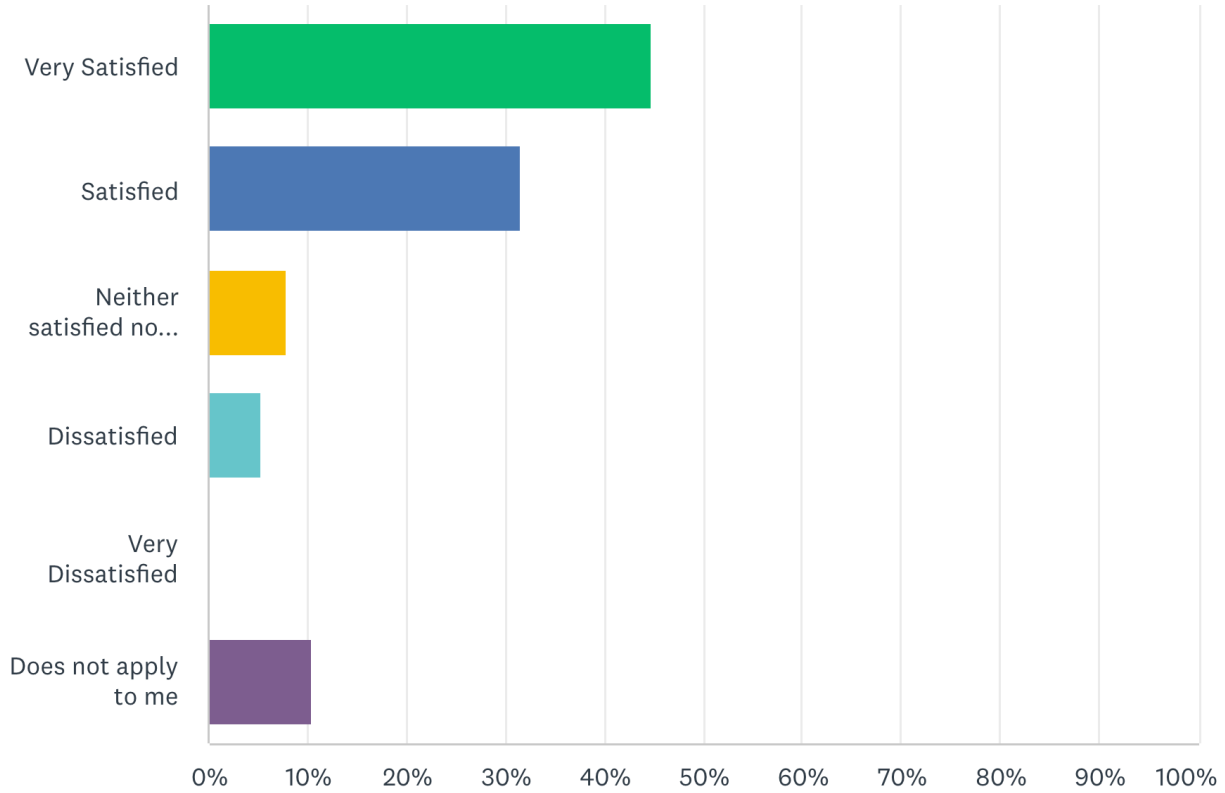
**Question 8**

(Optional) Please explain your answer to Question 7, regarding Test Scripts. For example, was anything lacking in the test scripts and/or did you find a particular format helpful, etc.?

- Some test scripts were very specific on what activities the participants were required to test, and others were opened ended. Having specific activities is helpful.
- The test scripts were easy to follow, but then again, I've been doing this since the DR inception.
- Everything was straight forward.
- I did not require a test script
- Varied per venue. Access from FIA was good. Content from venues at times was lacking or cryptic.
- Timeline information could be more concise
- FIA should mandate a template format for the test scripts, too many variations.
- Availability of test scripts early, and in a central place (FIA Web site) would help my internal coordination: Finding the scripts, distributing them to the relevant tester, etc.
- Not a big issue, but I wish there was a common script format. Each participant had a completely different document and took some time to figure out exactly where the test objectives were listed. The most clear instructions were from the CME, others were less clear.

**Question 9**

There is general consensus that pre-test participation is an important part of Test Day preparedness. How satisfied were you with your pre-test experience?



ANSWER CHOICES	RESPONSES
Very Satisfied	44.74% 17
Satisfied	31.58% 12
Neither satisfied nor dissatisfied	7.89% 3
Dissatisfied	5.26% 2
Very Dissatisfied	0.00% 0
Does not apply to me	10.53% 4
<b>TOTAL</b>	<b>38</b>

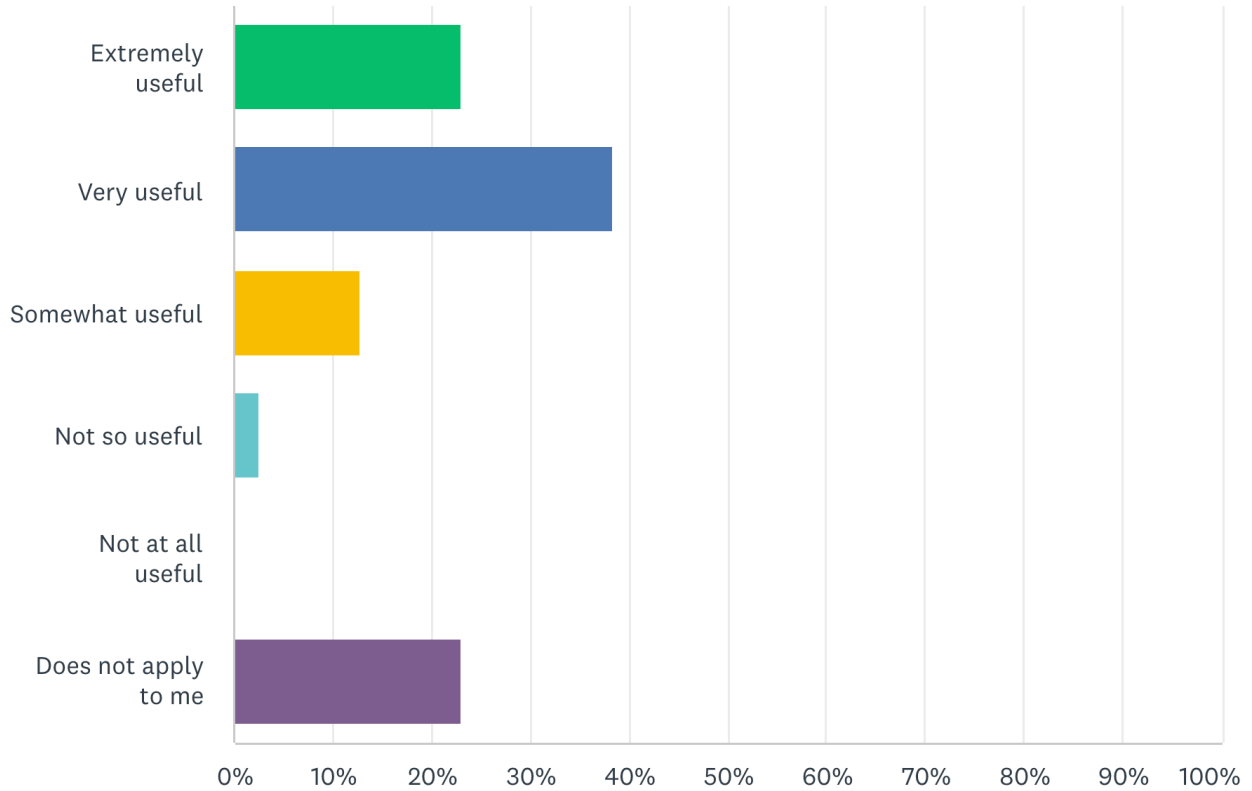
**Question 10**

(Optional) Please explain your answer to Question 9, regarding your pre-test experience. For example, did the selection of 2022 pre-test date offerings work for your organization?

- When testing with the CME the ping test does not have the VLAN down so it is not a true test.
- I believe it was satisfied and easy because there were opportunities to ping test prior to the DR date.
- Mostly satisfied. I experienced a lot of issues pre testing with the OCC.
- often find problems in pre-test - very valuable
- Pretesting is not required/suitable for all participants.
- There were no pre-test requirements for participants on the 'trading' side.
- Only 2 out of 5 pre-tests were offered for our exchanges
- During one of our pretest, we managed to complete the failover in 13 minutes.
- Minor request, would like if the pre test meetings were sent out as a regular meeting invite, rather than just an email stating when the meeting would occur.

**Question 11**

With a need for improvement noted, to what extent do you feel that the 2022 version of the DR Test Status page (the red/yellow/green indicator page) was useful/not useful?



ANSWER CHOICES	RESPONSES
Extremely useful	23.08% 9
Very useful	38.46% 15
Somewhat useful	12.82% 5
Not so useful	2.56% 1
Not at all useful	0.00% 0
Does not apply to me	23.08% 9
<b>TOTAL</b>	<b>39</b>

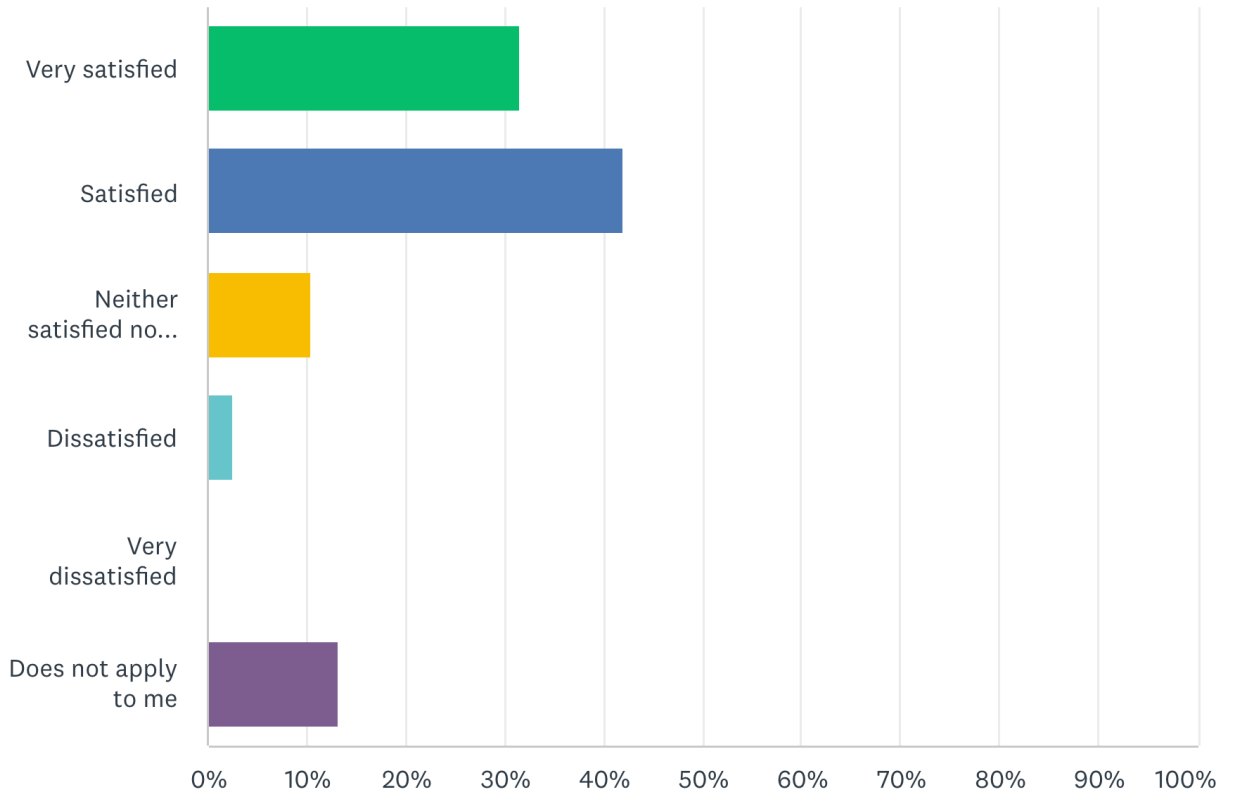
**Question 12**

(Optional) Please explain your answer to Question 11, regarding the Test Status page. For example, in what ways did you find it helpful and/or in which ways was it lacking, etc.? Do you have any recommendations for status page or dashboard technologies/services/applications that may improve the status page experience and usefulness?

- Nodal was never shown as green. So we missed testing with them.
- Everything worked as expected. Great job.
- I didn't really make much use of it. But it is functional.
- time stamped updates would provide information as to when the last updates occurred.
- Liked seeing it and when comments were provided it was useful, but it did seem to have stale data at one or two points.
- I did not need to refer to it.
- Did not reference the Test Status page, but will check it out during next year's test.
- This was so very helpful, and I was listening on the call and saw it was updated shortly after participants provided verbal updates. I did notice that some participants kept asking for status on the call, seemingly unaware of this status page.
- Would be good to hold the ISVs to provide status against each exchange as well.

**Question 13**

To what extent were you satisfied/dissatisfied with the availability and delivery of Test Scripts and Test Day instructions (from Exchanges/Clearing organizations), prior to Test Day?



ANSWER CHOICES	RESPONSES
Very satisfied	31.58% 12
Satisfied	42.11% 16
Neither satisfied nor dissatisfied	10.53% 4
Dissatisfied	2.63% 1
Very dissatisfied	0.00% 0
Does not apply to me	13.16% 5
<b>TOTAL</b>	<b>38</b>

**Question 14**

(Optional) Please explain your answer to Question 13, regarding Test Script Availability.

- Having the script available prior to the test date was helpful and early enough for planning. It gave firms ample time for Q&A with the exchanges/CCP prior to the DR date.
- The instructions were easy to find
- I feel the scripts were provided late this year compared to last.
- To have them as early as possible and in a central place would help.
- A few exchanges did not provide instructions until days before the test, for future testing, could a deadline of two weeks be set to post instructions, would be very helpful for those of us planning the exercise for our individual firms.

**Question 15**

Noting that the registration process for the DR Test was a two-step process (which will change in 2023), what would you improve about the test registration process and/or system in general? What information is not currently being captured that should be, to make Test prep and Test Day better?

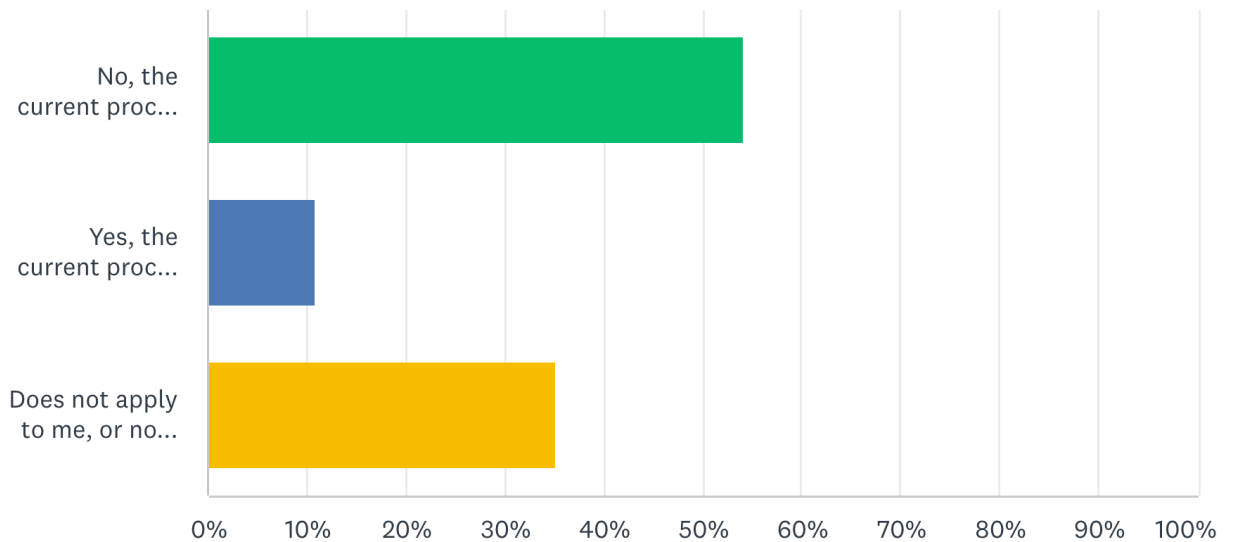
- Centralization of required testing participants to entity would be helpful when planning, as opposed to leaving it to the entity to contact the participant/tester.
- Proper contact information/escalation matrix needs to be shared for OCC Exchange for next year's FIA DR
- I would suggest that the FIA have a contact list of Main Contacts for each firm and send emails prior to registration and agree or make changes to the participants. It will save the time of registering.
- I thought everything worked well. I see no need to change anything.
- I think the test registration process is fine. Maybe a little finer distinction on roles might help. Who does or owns what.
- In place registrations process work perfectly fine.
- The registration is a simple process and covers basic and sufficient information.
- Registration worked fine.
- If it's included in 2023 it's good we are good to go with two factor authentication

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- Forward customer (broker) registrations to the exchanges.
- No issues here with FIA, CCPs and exchanges should rely on FIA for registration information instead of asking participants to register AND send contact information on.

### **Question 16**

Should FIA change the way that registration and coordination is handled with third-party service providers? We do not currently highlight service providers, and generally leave coordination up to service providers and their client part.



ANSWER CHOICES	RESPONSES
<ul style="list-style-type: none"> <li>▼ No, the current process of handling registration and coordination with third-party service providers should not be changed.</li> </ul>	54.05% 20
<ul style="list-style-type: none"> <li>▼ Yes, the current process for handling registration and coordination with third-party service providers should be changed.</li> </ul>	10.81% 4
<ul style="list-style-type: none"> <li>▼ Does not apply to me, or no opinion</li> </ul>	35.14% 13
<b>TOTAL</b>	<b>37</b>



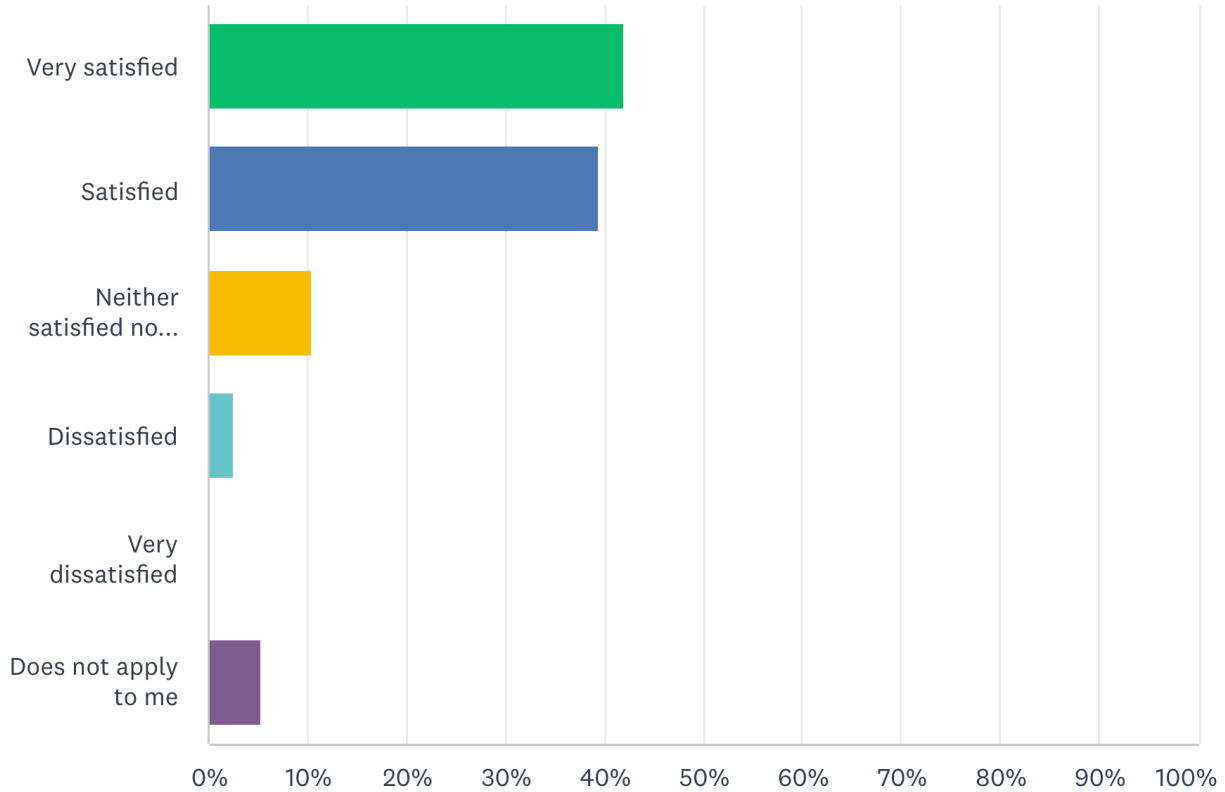
**Question 17**

(Optional) Please explain your answer to Question 16, regarding the way that registration and coordination is handled with third-party service providers. For example, should participants register with service providers via the FIA registration form? Should we do a roll call and/or seek announcements from service providers on calls, and/or dedicate space in the DR Test briefing to service providers, etc.?

- The process seems fine, been using it for many years. If you have a way to improve it I would like to hear it.
- As a clearing firm, I don't know how 3rd party vendors register for the test.
- I don't disagree with coordination being left with service providers, but a larger up-front footprint from FIA to share initial details on setup, schedule, workflow, etc., would be good. Essentially, much of the data that is NOT specific to the participant or that might vary based on participant could be managed and disseminated by FIA and essentially participants could "subscribe" if that are interested or are registered to test with that service provider. That eliminates customer A not getting all the same documentation and detail as customer B, who are both testing with Venue 123.
- I didn't have any issues re: 3rd party providers.
- For the SIFMA test (on the same day), during the registration process you can select which service bureau you use (such as Fidessa). The service bureaus can then see that data themselves from the SIFMA registration site. It would be nice if something similar could be done for the FIA test.
- Is it possible to have a list of registered participants collectively on one list in addition to receiving the individual confirmation via email?

**Question 18**

To what extent were you satisfied/dissatisfied with post-registration information and follow-up? Did you receive timely and appropriate information, particularly after registering for the FIA Test?



ANSWER CHOICES	RESPONSES
Very satisfied	42.11% 16
Satisfied	39.47% 15
Neither satisfied nor dissatisfied	10.53% 4
Dissatisfied	2.63% 1
Very dissatisfied	0.00% 0
Does not apply to me	5.26% 2
<b>TOTAL</b>	<b>38</b>

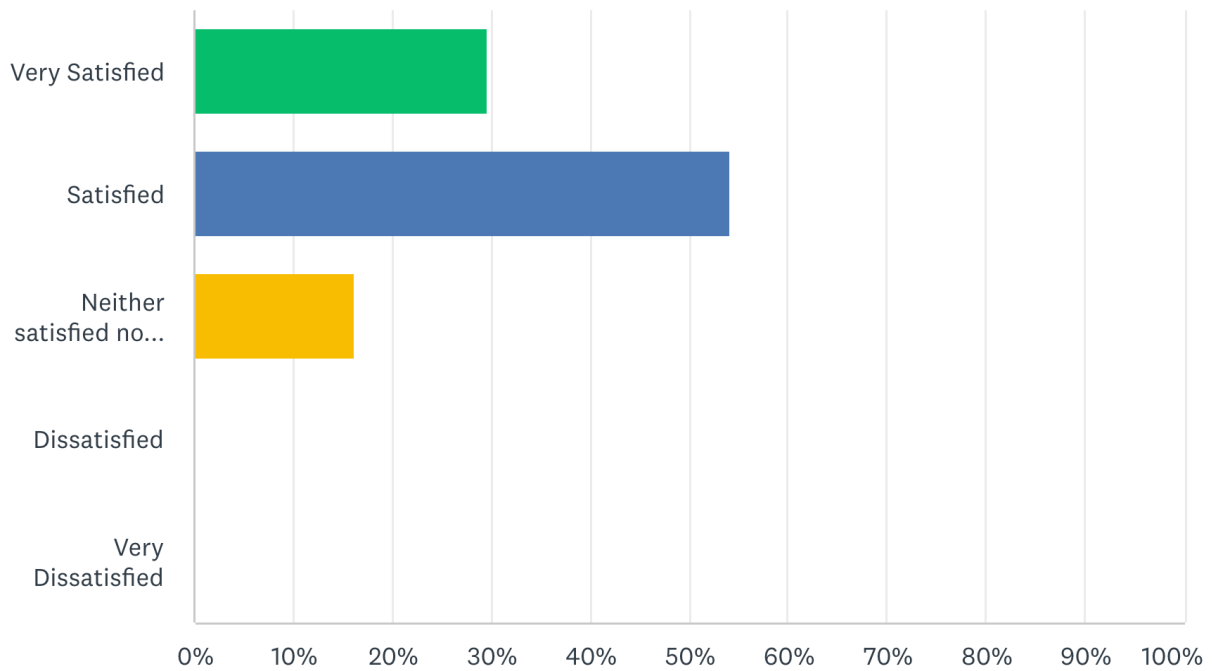
**Question 19**

(Optional) Please explain your answer to Question 18, regarding post-registration information and follow-up.

- The FIA and Exchange ( we only clear CME) did a wonderful job of keeping us up to date on meetings.
- It was appropriate.
- Need post mortem follow up with those CCP which had issues, do they plan to resolve and retest?

**Question 20**

To what extent were you satisfied/dissatisfied with the content of the webinar/presentation that was given by Exchanges and Clearinghouses on August 24th?



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ANSWER CHOICES	RESPONSES
Very Satisfied	29.73% 11
Satisfied	54.05% 20
Neither satisfied nor dissatisfied	16.22% 6
Dissatisfied	0.00% 0
Very Dissatisfied	0.00% 0
<b>TOTAL</b>	<b>37</b>

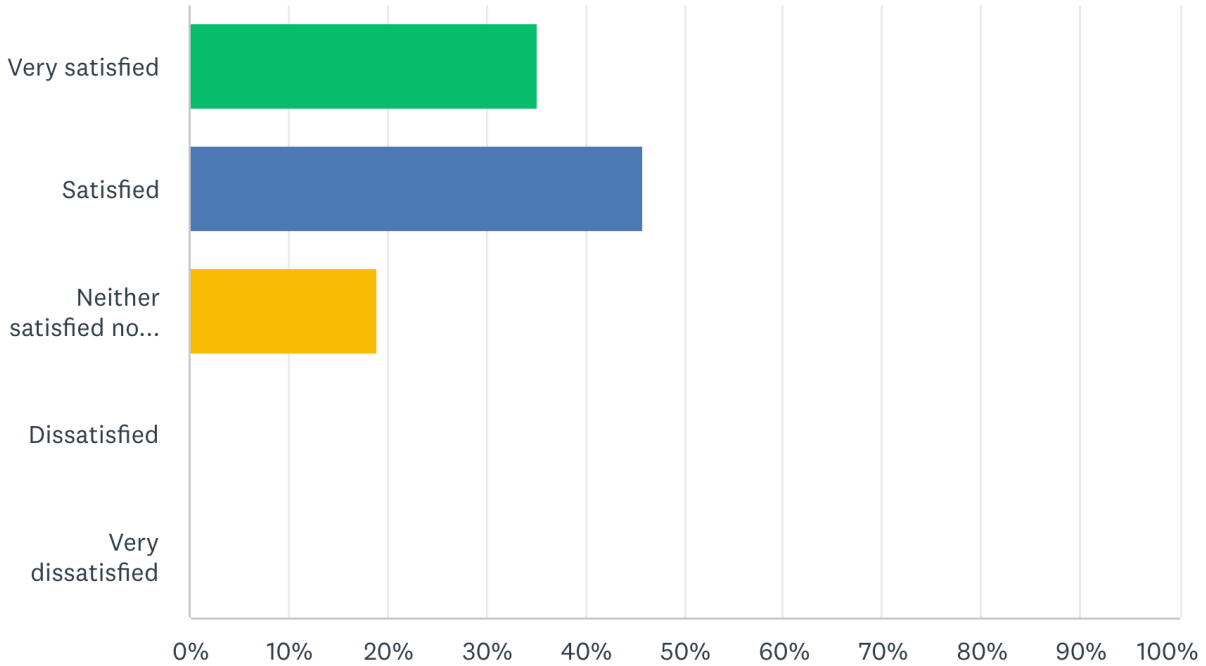
### **Question 21**

(Optional) Please explain your answer to Question 20, regarding satisfaction with the webinar/presentation that was given by Exchanges and Clearinghouses.

- Very good, it covered all the bases - didn't have any questions afterward.
- Some Exchanges/CH didn't give a detailed presentation

**Question 22**

To what extent were you satisfied/dissatisfied with the content and structure of the main DR Test webpage located at <https://www.fia.org/events/2022-fia-disaster-recovery-exercise>?



ANSWER CHOICES	RESPONSES
Very satisfied	35.14% 13
Satisfied	45.95% 17
Neither satisfied nor dissatisfied	18.92% 7
Dissatisfied	0.00% 0
Very dissatisfied	0.00% 0
<b>TOTAL</b>	<b>37</b>

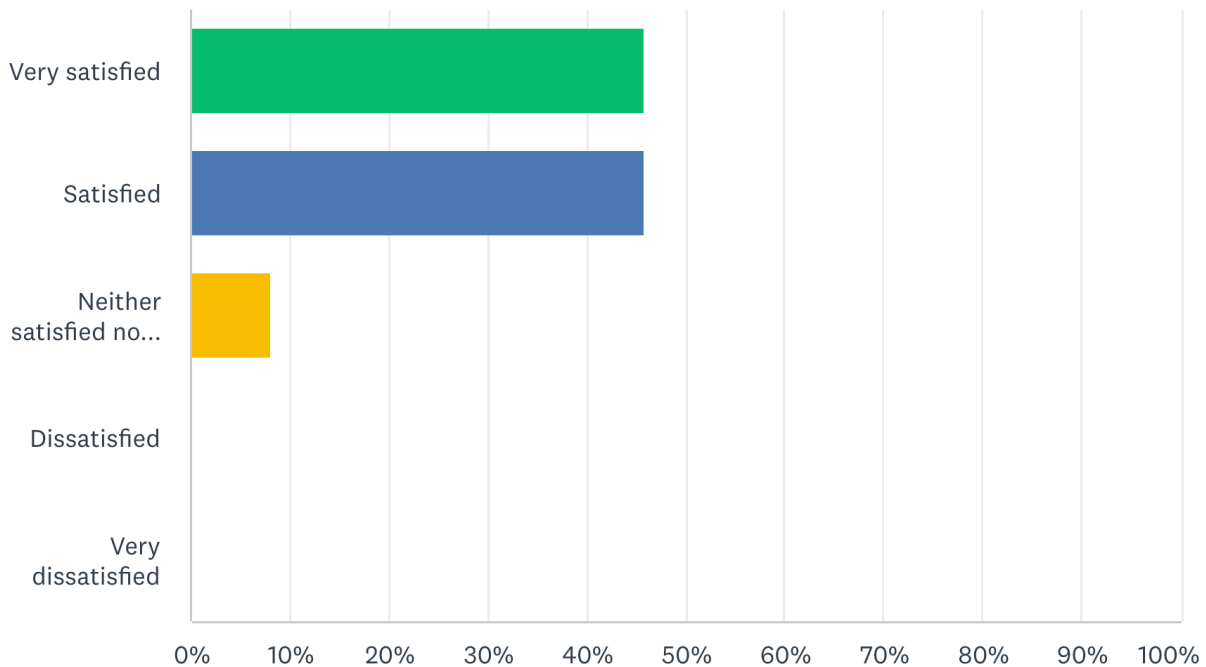
**Question 23**

(Optional) Please explain your answer to Question 22, regarding content and structure of the main DR Test webpage, and how we may best improve this site. Does more information need to be communicated?

- No need to change.
- IT is a good start, but more would be appreciated. More like a portal for service providers to provide all their information to testers that testers can then subscribe to receiving.
- Content was fine and easily located
- Test scripts should have been provided earlier. Though out of FIA's control, that should be integral.
- Use of visual effects such as timelines would be more engaging.
- Complete and easy to navigate.

**Question 24**

To what extent were you satisfied/dissatisfied with the amount and quality and timeliness of communications that you received from FIA, regarding DR Test information and test-related activities (i.e. – participant calls), etc.?



ANSWER CHOICES	RESPONSES
Very satisfied	45.95% 17
Satisfied	45.95% 17
Neither satisfied nor dissatisfied	8.11% 3
Dissatisfied	0.00% 0
Very dissatisfied	0.00% 0
<b>TOTAL</b>	<b>37</b>

**Question 25**

(Optional) Please explain your answer to Question 24, regarding communications of DR Test information/activities by FIA.

- It was consistent but not an overload.
- Communication was fine - meetings were pre-announced

**Question 26**

Geographically, from whereabouts did you participate in the FIA DR Test? \*Note\* that City, State, and/or Country are sufficient and preferable answers.

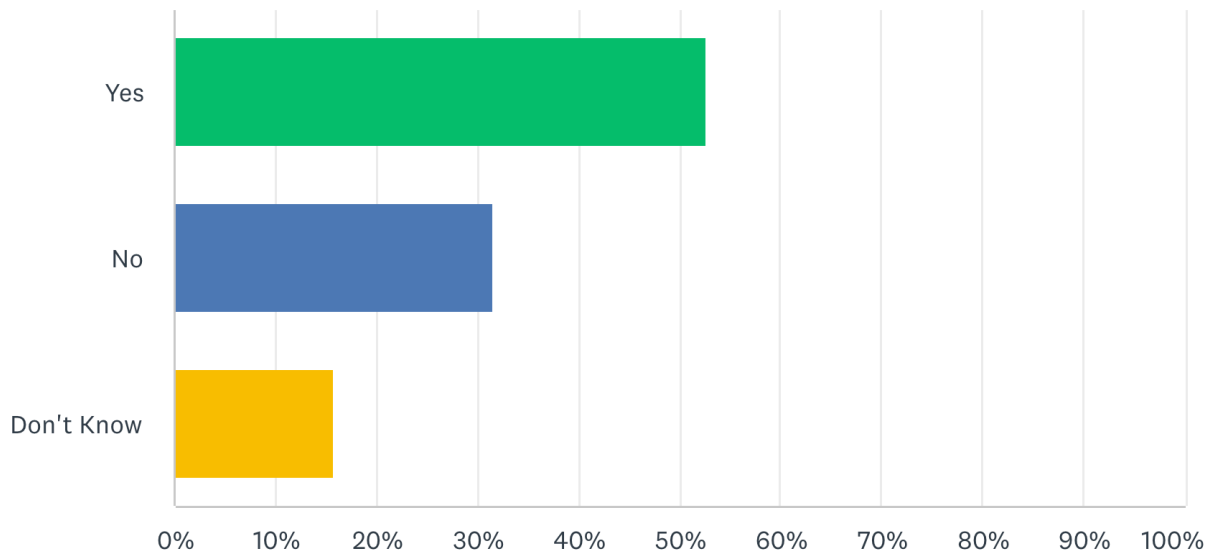
- Chicago, IL, USA (and various suburbs) – multiple responses
- Dubai, UAE
- Frankfurt, Germany
- Hawaii, USA – remoting into desktop
- London, UK – multiple responses
- Minneapolis, MN, USA
- Mumbai, India
- Nashville, TN, USA
- New Jersey, USA (general) – multiple responses
- New York, NY, USA – multiple responses

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- Paris, France
- Pennsylvania, USA (general)
- Phoenix, AZ, USA
- Poland (general)
- Putnam Valley, NY, USA
- Scottsdale, AZ, USA
- St. Paul, MN, USA
- Houston, TX, USA
- Voorhees, NJ, USA

### **Question 27**

Did your organization also participate in the annual SIFMA test (also on October 15<sup>th</sup>)?



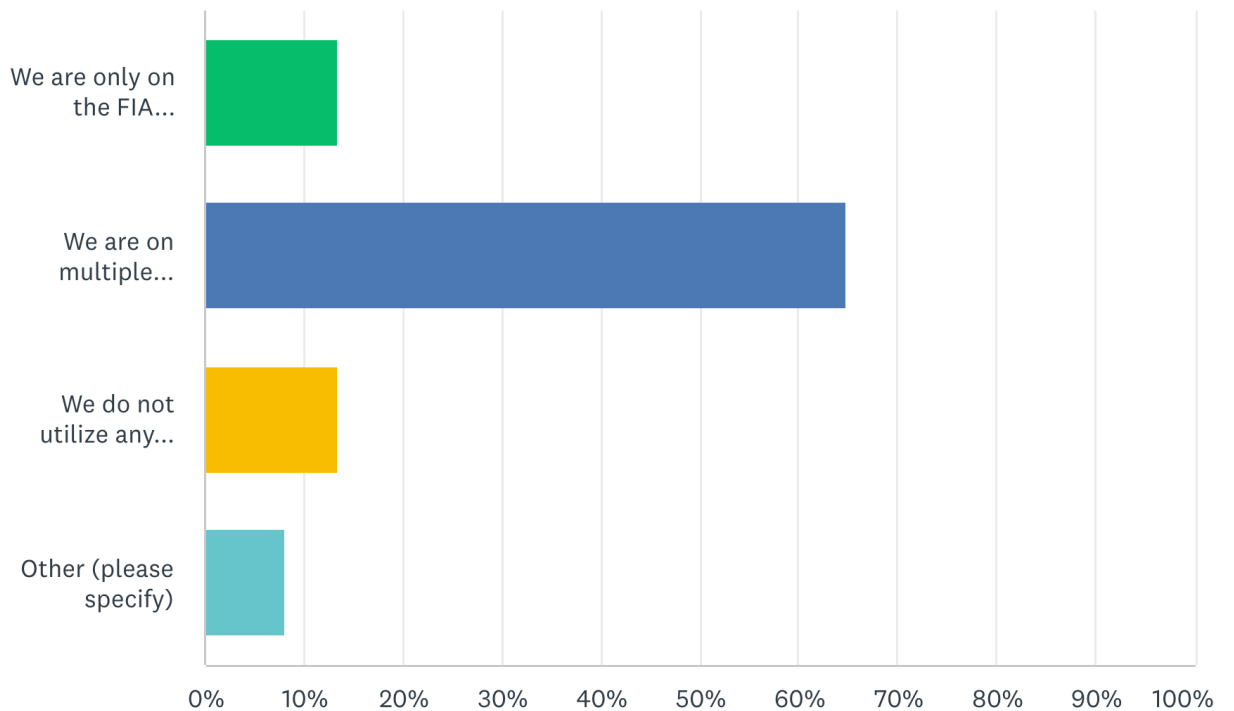


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ANSWER CHOICES	RESPONSES	
▼ Yes	52.63%	20
▼ No	31.58%	12
▼ Don't Know	15.79%	6
<b>TOTAL</b>		<b>38</b>

### **Question 28**

How many additional ongoing conference bridges do you concurrently maneuver on Test Day, in addition to the FIA conference bridge?



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ANSWER CHOICES	▼	RESPONSES ▼
▼ We are only on the FIA conference bridge on Test Day		13.51% 5
▼ We are on multiple concurrent conference bridges, in addition to the FIA conference bridge, on Test Day		64.86% 24
▼ We do not utilize any Test Day conference bridges		13.51% 5
▼ Other (please specify)	<a href="#">Responses</a>	8.11% 3
<b>TOTAL</b>		<b>37</b>

### **Question 29**

(Optional) Please explain your answer to Question 28, regarding concurrent conference bridges. For example, do you participate on both the FIA and SIFMA conference bridges? Do you maneuver internal concurrent conference bridges, in addition to FIA/SIFMA? How do you manage participation on multiple concurrent conference bridges, on Test Day?

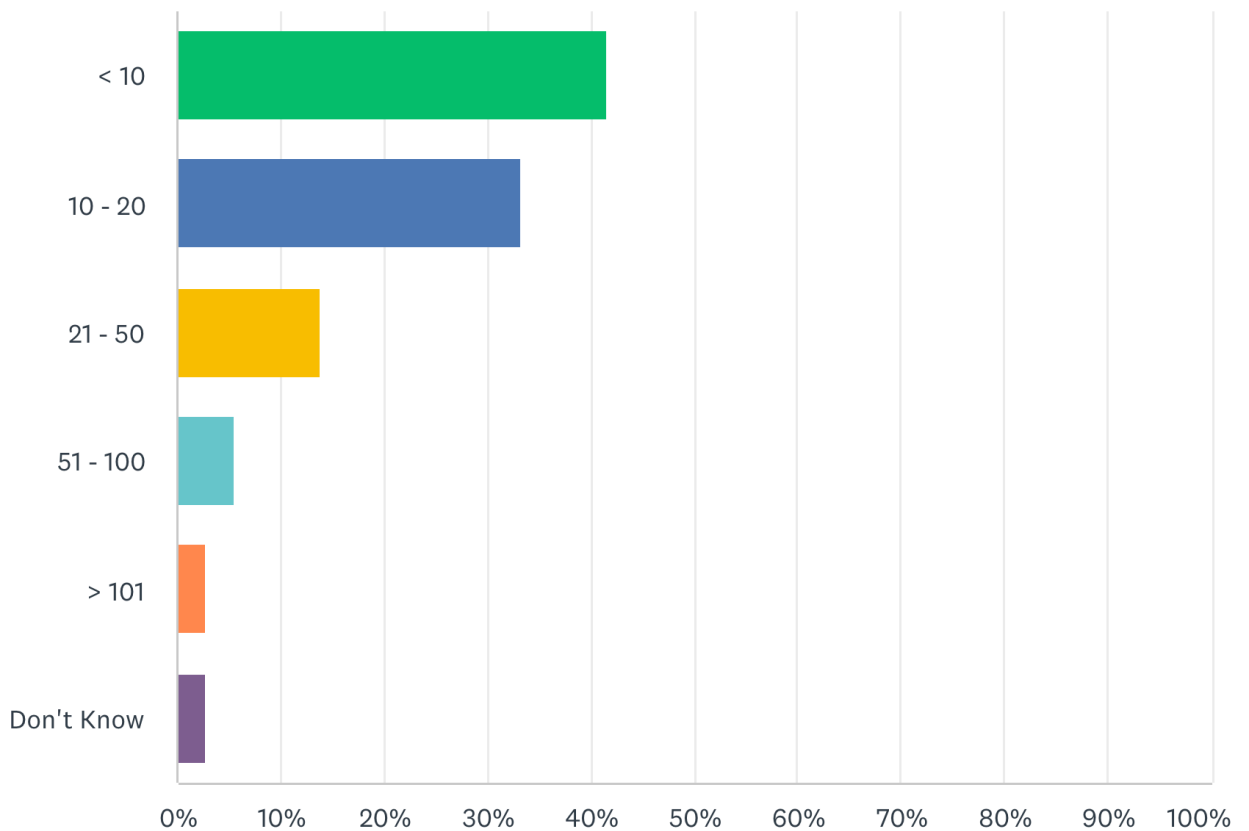
- Internal
- We attend both the FIA and SIFMA bridges. Additionally, we have an internal bridge we manage for internal coordination. This results in having one coordinator spanning multiple bridges which was difficult at times. Can FIA and SIFMA bridges be combined on test day?
- One with the internal staff if they are having any issues and a third call out to the exchanges for technical support.
- We only clear NYMEX products, so we only needed to conference into the FIA bridge.
- FIA bridge and a support call.
- I had just one conference to deal with based on product – futures.
- We were mandated to participate in the Reg SCI and OCC test and were voluntary participants in the SIFMA Classic and Equities testing.
- Managing the DR test across multiple internal and external bridges was complicated and could be confusing. This is why a previous state or timestamp would help identify when an update has occurred.
- Used symphony with our front and back office partners. Zoom for conversations and adobe share for our updated runbook.
- Managed an internal plus one of the FIA/SIFMA bridges.
- FIA bridge, Nodal bridge, Internal bridge.

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- Both the FIA and SIFMA conference bridge. We need to tie up two resources, one for each call.
- We have team members on the SIFMA, FIA, and OCC bridges as well as our internal bridge.
- I was on the FIA bridge, but next year I may only dial in when needed as I was getting most of the info I needed from the status page. Our firm mostly runs our activities via group chat and start our own call if needed.
- Coordinating with FIA, internal execution and internal clearing.

### **Question 30**

Approximately how many staff were involved with your test initiative this year (e.g., pre-test planning, support, help desk, failover, test management, test execution)?

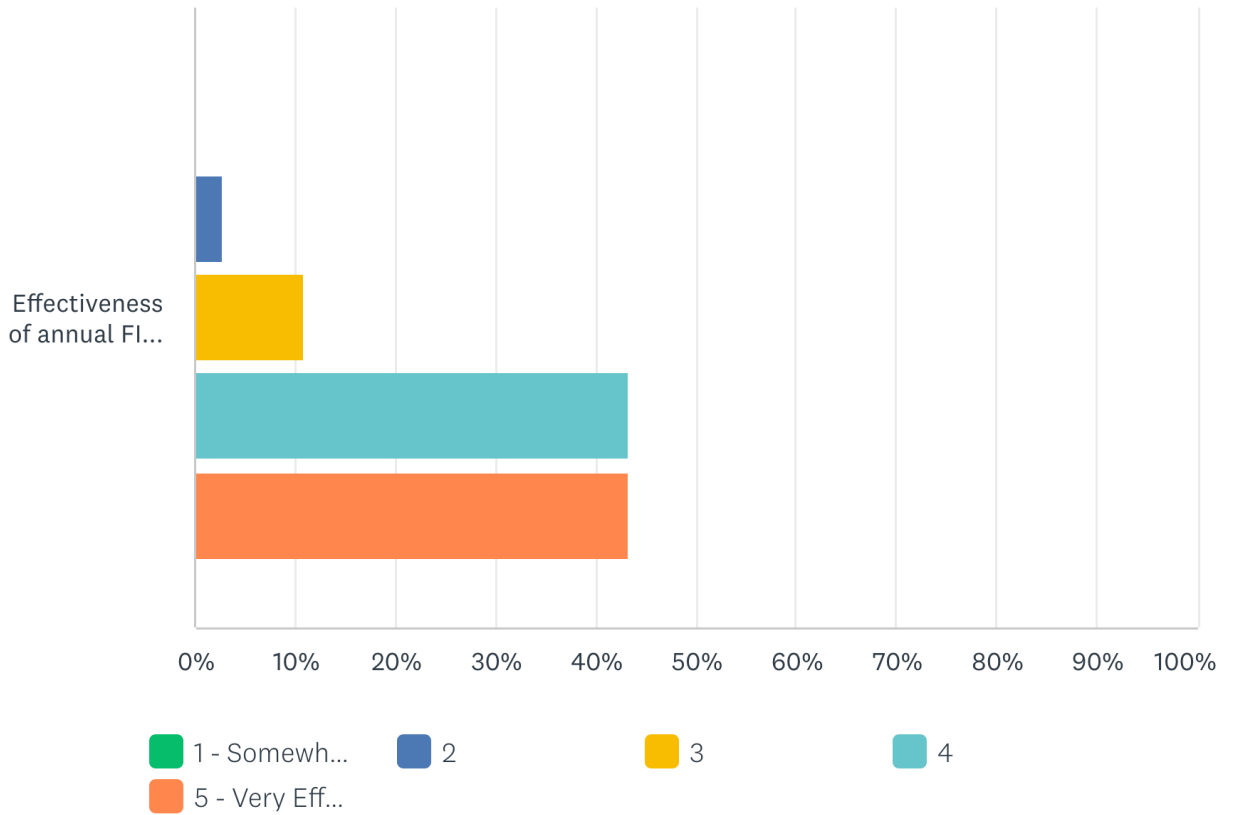


## FIA Market Technology Division

ANSWER CHOICES	RESPONSES	
< 10	41.67%	15
10 - 20	33.33%	12
21 - 50	13.89%	5
51 - 100	5.56%	2
> 101	2.78%	1
Don't Know	2.78%	1
<b>TOTAL</b>		<b>36</b>

### Question 31

How would you rate the effectiveness of the annual FIA DR Test in testing/addressing business continuity objectives? (on a scale of 1-5 where 1 = Somewhat Effective and 5 = Very Effective)



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	1 - SOMEWHAT EFFECTIVE	2	3	4	5 - VERY EFFECTIVE	TOTAL
Effectiveness of annual FIA Disaster Recovery Test	0.00% 0	2.70% 1	10.81% 4	43.24% 16	43.24% 16	37

### **Question 32**

Please feel free to share additional comments and suggestions, including topics not listed on this survey:

- We remained in production while all exchanges/entities failed over to their DR environments.
- Capacity testing is a concern, both on our end that we control, but also on venues. Using "test" symbols works, but pumping full previous days data to test capacity of DR, even if STP and Clearing is still only supported on the handful of products, would be good.
- Thanks for this exercise, much appreciated.
- I think a RegSCI style effort with actual processing would be more effective in fully vetting BCP/DR plans, although I understand that it comes with its own set of technical challenges that not all parties can support.
- Large expense to have operations folks log into GUIs. I can understand MQ connectivity.
- The BCP/DR test allows us an opportunity to familiarize ourselves with our failover procedures, and changes to those procedures.
- The test occurs during a very busy time for Agg markets, which are operating on Saturday. Hoping the test could be moved earlier for that reason.
- DR to DR is the most unlikely scenario, either one side or the other will be in DR mode and the other remains main Production site