



# ***2021 FIA Industry-Wide Disaster Recovery Test***

## ***Summary Report***

***December 15, 2021***

### A. Background

The futures industry completed its 18th FIA Disaster Recovery Test on Saturday, October 23rd, 2021. The origin of the annual exercise, an initiative of the FIA Market Technology division, began shortly after the events of September 11th, 2001, and the first disaster recovery test took place on October 9th, 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 beginning, the scope of the disaster recovery test has been focused on testing business continuance, process recovery, disaster resilience 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 exercise remains a coordinated industry effort and participation, from day one, has been 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 23<sup>rd</sup>, 2021. The exercise was successful in its second year of Coronavirus (COVID-19), which did not appear to have any limiting effects on test participation. Testing of connectivity and operation of systems under a simulated disruption scenario was a success.

The DR Test remains an effective method for practicing resilience and learning from issues that arise as we simulate reaction to system outage. Participants develop a "muscle memory" for business continuity processes and procedures, preparing them for real-world incidents, continually improving and learning from test successes and failures.

- In 2021, between 68% 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 21 major U.S. and international futures exchanges and clearinghouses, participated in the 2021 disaster recovery test.
- Representatives from FCMs, vendors/third-parties, prop trading firms, regulators, and other supporting entities, also participated as follows:
  - 52 FCMs
  - 6 vendors & third parties
  - 4 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.
- Overall test orchestration, facilitation and order entry was conducted from alternate work sites, as well as DR data centers.
- Testing from alternate work sites is customary and expected during the DR test, however, as in 2020, there were a multitude of firms with staff working remotely during the 2021 test, due to the current Coronavirus situation.
- Alternate work sites (reported) were geographically dispersed within the United States, Canadian Provinces, as well as globally in numerous other countries. As in 2020, there were higher numbers of people testing from work-from-home locations across the globe.
  - United States and Canadian Cities/Provinces:
    - Connecticut / Florida / Georgia / Illinois / Indiana / Iowa / Minnesota / New Jersey / New York / Missouri / North Carolina / Tennessee / Texas / Toronto (Ontario) + more

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- Cities in Additional Countries:
  - Germany, India, Israel, Italy, Poland, United Arab Emirates, United Kingdom (various) + more

Over the years, 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 DR Test is surely a reflection of 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 a systemic market disruption.

The scope of additional business continuance activities by participants, in conjunction with 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 2021.

### C. 2021 Test Overview and Milestones

On June 16<sup>th</sup>, a planning committee, consisting of personnel from an array of exchanges, clearinghouses, and FCMs met to discuss objectives for the 2021 exercise.

An invite to a June 23<sup>rd</sup> kick-off call was distributed on June 10<sup>th</sup>. Past participants, including representatives from major FCMs, exchanges, clearinghouses, and service providers, were encouraged to add new colleagues to the distribution list.

Conference calls were scheduled to take place monthly from June to November, ending with a post-mortem in November.

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 18<sup>th</sup>, for the exchanges and clearinghouses to present details on their tests, including options for pre-testing and trade dates for the test.

Test registration opened on July 26<sup>th</sup>. Participants were encouraged to register early to ensure that they received all pertinent communications. The process for registration changed in 2021. To unite processes for the FIA DR Test with those of other FIA events, a hybrid registration model was used, requiring a two-step process to register. Participants adapted to the change well, but we hope to fully integrate this process in 2022, to reduce the number of steps.

The FIA set a deadline of October 15<sup>th</sup> for online test registration to be completed. Those seeking to register thereafter were required to register manually.

On October 23<sup>rd</sup>, the FIA Disaster Recovery Test took place, and an all-day conference bridge was provided to facilitate communication. 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 November 4<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 11 of this report.

A post-mortem call was held on November 17<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 2021 Test:

- Bitnomial Exchange
- Canadian Derivatives Clearing Corporation
- Cboe Futures Exchange
- CME Group
- Dubai Mercantile Exchange
- Eurex
- Euronext
- FairX
- ICE Exchanges
- ICE Clear EU
- ICE Clear US
- ICE Clear Singapore
- ICE Clear Credit
- ICE eConfirm Trade Vault
- Minneapolis Grain Exchange
- Montreal Exchange
- Nodal Exchange
- Options Clearing Corporation
- Small Exchange

Test participants also included 52 FCMs, 6 vendors/third parties, 4 prop trading firms and a regulator.

Between 57% 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 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

## 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
- 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 11 of this report.

## F. Problems Encountered (survey responses)

- We didn't have time to complete everything we wanted to test internally.
- Cooperation/coordination and support from [specific] ISVs could have been better. e.g. - accessing [specific exchange] took nearly two hours after failover when other ISVs were able to connect more quickly. This could have resulted in member non completion of tests.
- Some connectivity issues that Exchanges had to resolve
- [One specific] ISV felt like a failure as it was near impossible to reach them during issues
- Though most registered participants did come through and successfully test and confirm, there were some that had registered that we were not able to reach, even though they provided contact info and said they'd be available on test day.
- One of the exchanges did not provide a script for test day
- I thought the two-step [registration] process was confusing. None of our information changes from year to year, so it might be helpful to bring up the prior year's information. I don't remember if that happened or not. But I did have trouble getting to the second step.
- One clearing organization was slow responding to inquiries regarding their test script, provided the script one day prior to the test, and required registration in July or be excluded from testing.

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- Our only issue was with [one clearing organization] who said they didn't see our registration for some reason. Not sure what didn't happen, but we'll note and be sure to check in with them for future tests
- Not sure why, but some registrations ended up in my Spam folder. If I hadn't looked in it on test day, I would not have known of those clients' registrations
- This year I received a separate call from [a specific exchange] asking us to provide registration information that we had already provided to FIA. Was there a change in what information was communicated by FIA to the exchanges?

### G. Lessons Learned (survey responses)

- Inconsistent testing scripts and results tracking creates inefficiency
- Each organization provides a test script in a different format, so it's hard to extract what the specific objectives are for the test, some companies are very clear, others are less so. Would be nice to have a common test objectives format that all exchanges use.
- Pre-testing really helps in figuring out any existing network/firewall issues
- From an exchange perspective this pre-testing is critical to test successfully to avoid issues on test day when the test window is very tight
- [Pre-testing] helps mitigate any connectivity issues ahead of the official test day, and gives participants the opportunity to expose and repair any connectivity issues, which will result in a smoother participation come official test day.
- [Referring to the Test Day status page] The red light greenlight system does not convey enough information. An exchange can be listed as green even if they are still experiencing issues. Green also means different things at different times during testing, like at one point it could mean the venue is in normal phase or DR phase. Further this system does not convey the readiness of the ISVs who access the markets
- DR test weekends are very tight for availability during any given year, and only becoming tighter, completing these two big tests on a single day is a great use of time
- FIA-SIFMA-IIROC many bridges and many call in... hard to be everywhere at the same time
- Overall, it's very helpful to have a day when we connect to all our providers/exchanges and practice DR and transactions through DR. DR to DR is not a likely scenario, but there is still value in this test. Might be an issue however in the more likely scenario that we are in DR and everyone else is in prod, or just a single major player is in DR, and everyone else is in prod.
- It's a critical exercise and also provides an opportunity to confirm access for the DR connections, however, it is not clear if it is closely analogous to the outcome we would have if it were production.



#### H. Suggested Next Steps (survey responses)

- It would be nice if every exchange could have the same test window times. It would simplify things.
- Would prefer [an] earlier start and end [time for the test].
- There are maybe a little too many meetings in preparation [for the test]
- I wish each exchange would have similar test scripts
- We were unable to attend one of the three ping test dates prior to the main test, due to conflict on our side. All companies experience resource conflicts on weekends, not helpful or fair to make pre-testing a requirement
- [Referring to the Test Day status page] It would be ideal if participants/utilities could update their own statuses in real time
- [Referring to the Test Day status page] A page where the participating entities are able to update “real time” would be invaluable. Sitting through call to walk through each is tedious
- I believe that contacts are requested for project leads and technical resources, but it would also be helpful to have the contacts of the users who will actually be performing the testing. Those performing the DR test are often not the same people who perform the normal day to day operations, or pre-testing, so it would be helpful to have their contact info as well.
- [Regarding third party participation] It was confusing for participants, if they were part of the test or not. Would be helpful to add the third parties to the regular test registration
- I think participants should continue to register directly with FIA. However, it would be nice to know which service providers are actively participating.
- Please have the same [test] script requirement [as SIFMA]. It’s a lot to try to please both your organizations. Coordinate only one test script.
- [Regarding Test Day conference bridges] We check in on the FIA conference call, but I think it would be much more effective as a group chat, or a group chat/call where calling in is optional

## I. 2022 FIA Disaster Recovery Test

The 2022 FIA Disaster Recovery Test will take place on Saturday, October 15<sup>th</sup>, 2022.

The SIFMA Disaster Recovery Test will also take place on Saturday, October 15<sup>th</sup>, 2022.

- 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. We would also like to thank those who were on the planning committee and 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

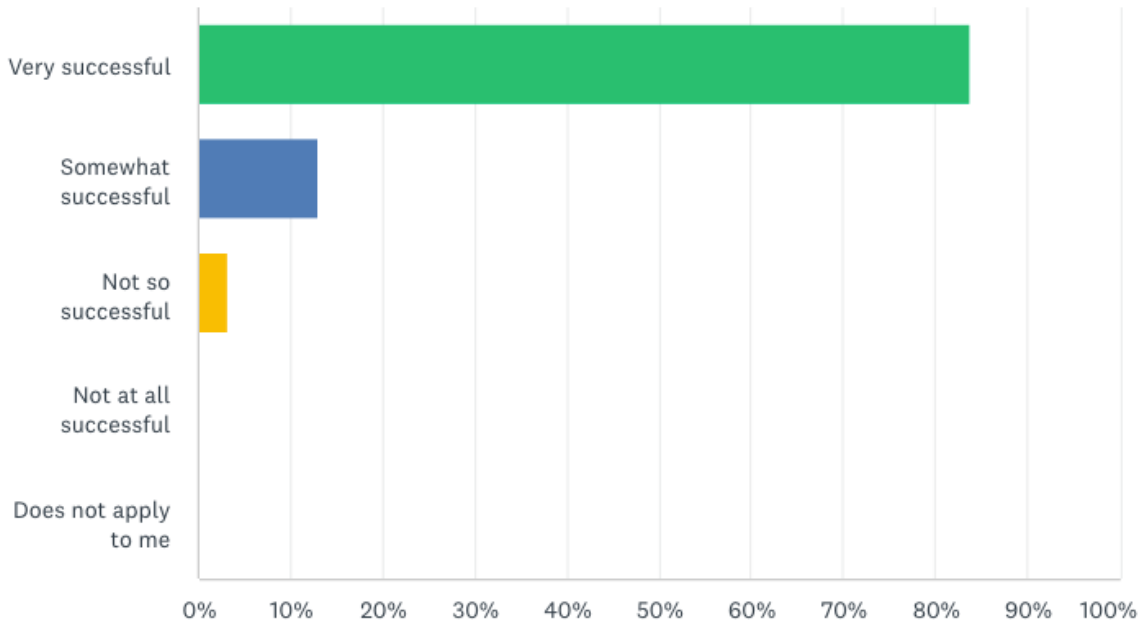


**Survey Results and Feedback:**

A post-test survey was distributed to participants on November 4<sup>th</sup>, 2021. There were 31 survey submissions. The following are the questions and corresponding responses. Thank you to all who participated and provided feedback!

**Question 1 & 2**

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



ANSWER CHOICES	RESPONSES
Very successful	83.87% 26
Somewhat successful	12.90% 4
Not so successful	3.23% 1
Not at all successful	0.00% 0
Does not apply to me	0.00% 0
<b>TOTAL</b>	<b>31</b>

*Comment highlights (Questions 1 & 2):*

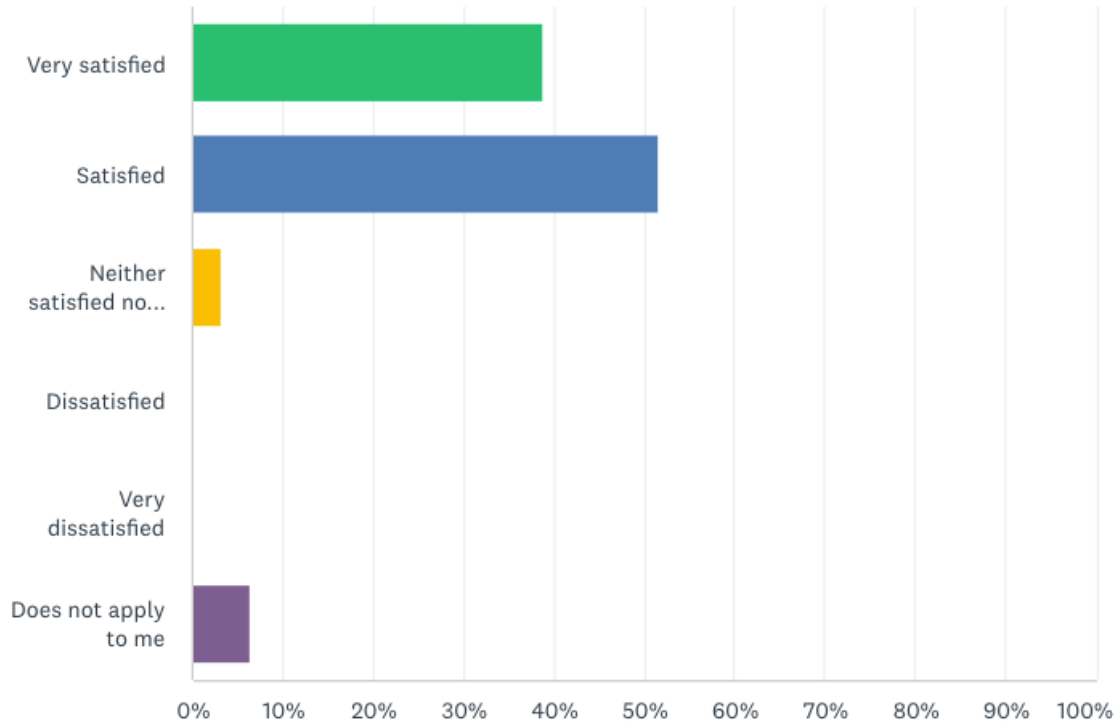
- Good planning and execution for our firm
- We had no issues

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- No issues with connectivity from DR to Exchange DR. Processes all worked
- We didn't have time to complete everything we wanted to test internally
- 99% of objectives were completed successfully
- Cooperation/coordination and support from [specific] ISVs could have been better. E.g. - accessing Montreal took nearly two hours after failover when other ISVs were able to connect more quickly. This could have resulted in member non completion of tests
- Was a success due to straightforward test with no issues
- Seamless process end to end
- No issues found

### **Question 3 & 4**

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



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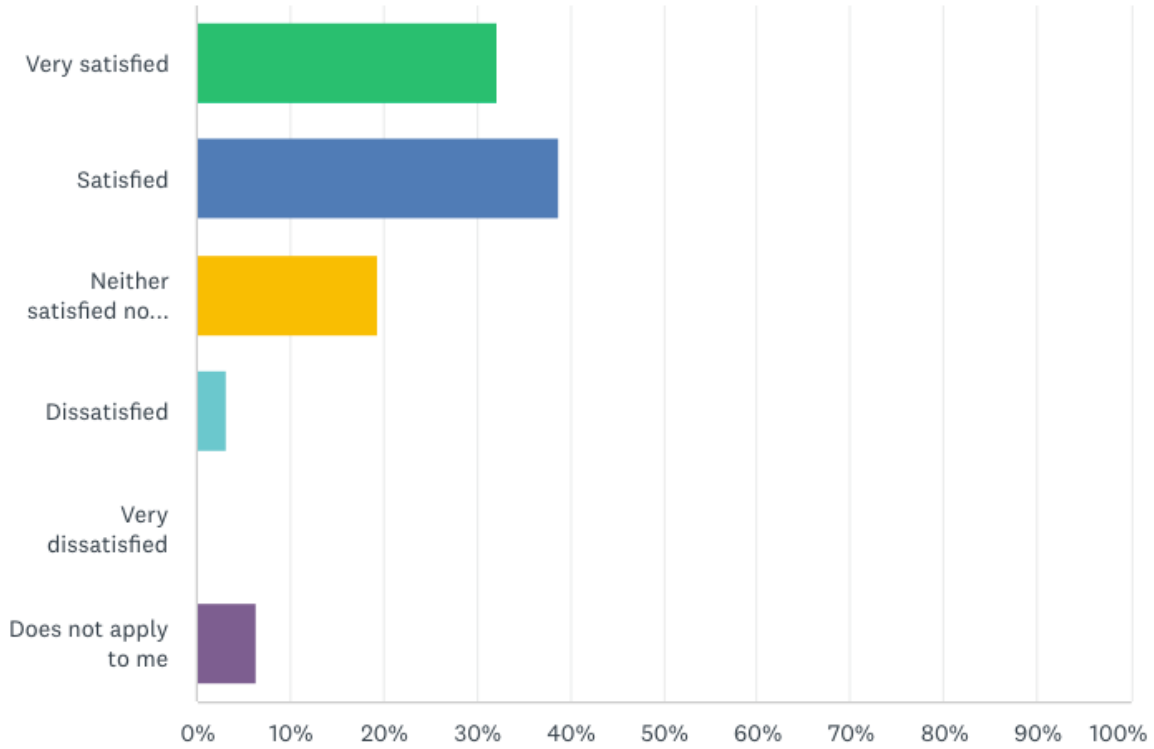
ANSWER CHOICES	RESPONSES	
Very satisfied	38.71%	12
Satisfied	51.61%	16
Neither satisfied nor dissatisfied	3.23%	1
Dissatisfied	0.00%	0
Very dissatisfied	0.00%	0
Does not apply to me	6.45%	2
<b>TOTAL</b>		<b>31</b>

### *Comment highlights (Questions 3 & 4):*

- It would be nice if every exchange could have the same test window times. It would simplify things.
- They are fine as slimmer than initial test days going into late afternoon
- Since we had no major issues we completed tasks inside the test window
- Would prefer earlier start and end
- Some connectivity issues that Exchanges had to resolve

**Question 5 & 6**

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



ANSWER CHOICES	RESPONSES
Very satisfied	32.26% 10
Satisfied	38.71% 12
Neither satisfied nor dissatisfied	19.35% 6
Dissatisfied	3.23% 1
Very dissatisfied	0.00% 0
Does not apply to me	6.45% 2
<b>TOTAL</b>	<b>31</b>

*Comment highlights (Question 5 & 6):*

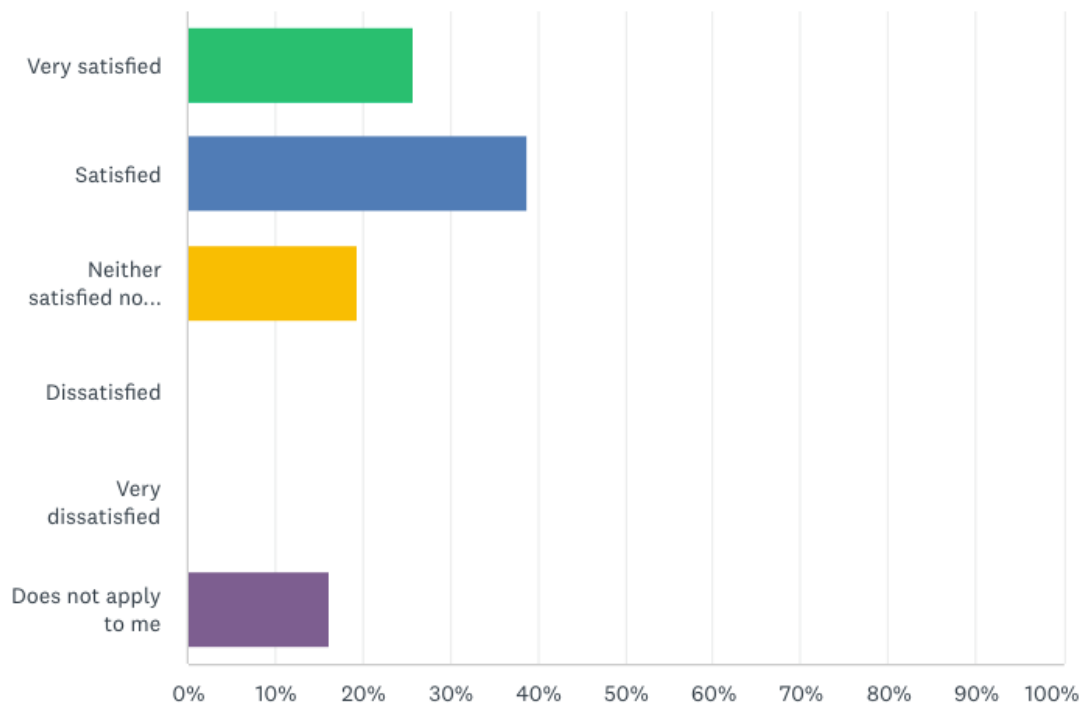
- There is maybe a little too many meetings in preparation
- No issues. Was able to reach appropriate support where applicable

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- Responses to inquiries were timely and instructive
- [One specific] ISV felt like a failure as it was near impossible to reach them during issues
- Though most registered participants did come through and successfully test and confirm, there were some that had registered that we were not able to reach, even though they provided contact info and said they'd be available on test day.
- Entities are well-prepared and responsive

### **Question 7 & 8**

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



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ANSWER CHOICES	RESPONSES
Very satisfied	25.81% 8
Satisfied	38.71% 12
Neither satisfied nor dissatisfied	19.35% 6
Dissatisfied	0.00% 0
Very dissatisfied	0.00% 0
Does not apply to me	16.13% 5
<b>TOTAL</b>	<b>31</b>

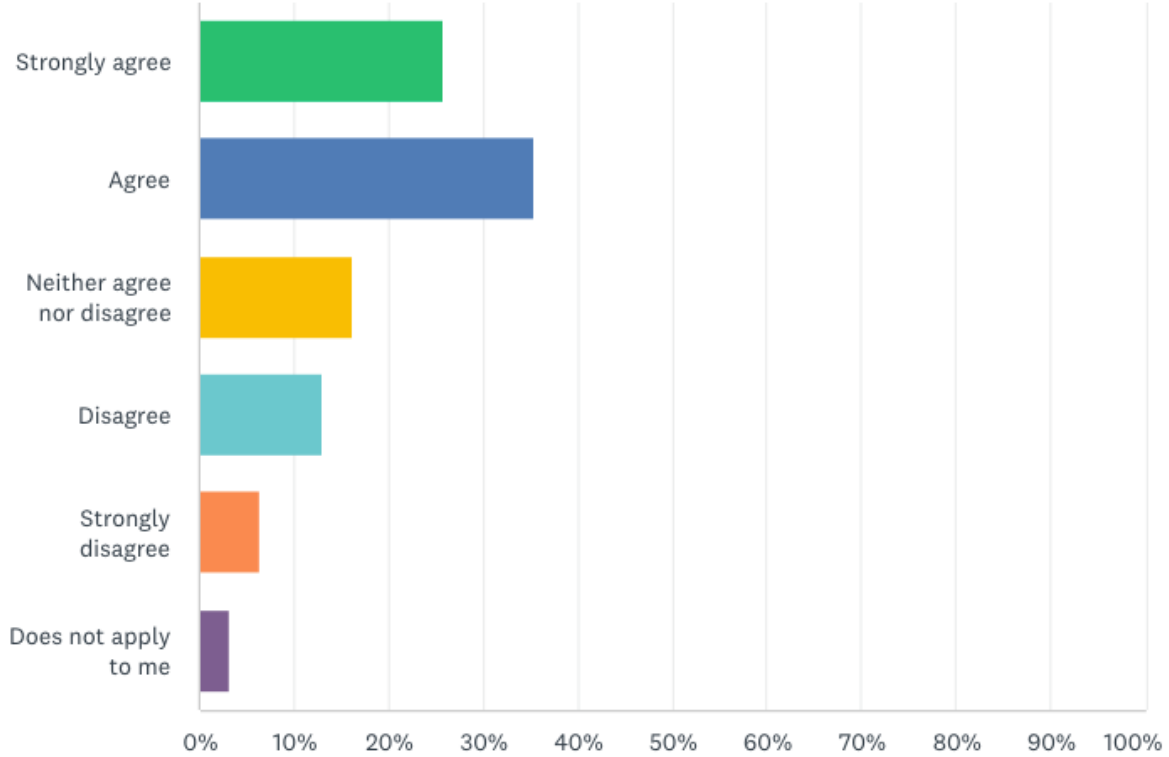
### Comment highlights (Question 7 & 8):

- I wish each exchange would have similar test scripts
- Inconsistent testing scripts and results tracking creates inefficiency
- Each organization provides a test script in a different format, so its hard to extract what the specific objectives are for the test, some companies are very clear, others are less so. Would be nice to have a common test objectives format that all exchanges use.
- Some clearing houses/exchanges scripts were not clear
- However, it would be nice if we could enter trades through FEC as we don't use CME Direct or ClearPort



**Question 9 & 10**

To what extent do you agree/disagree that pre-test participation should be a strict requirement for Test day participation?



ANSWER CHOICES	RESPONSES
Strongly agree	25.81% 8
Agree	35.48% 11
Neither agree nor disagree	16.13% 5
Disagree	12.90% 4
Strongly disagree	6.45% 2
Does not apply to me	3.23% 1
<b>TOTAL</b>	<b>31</b>

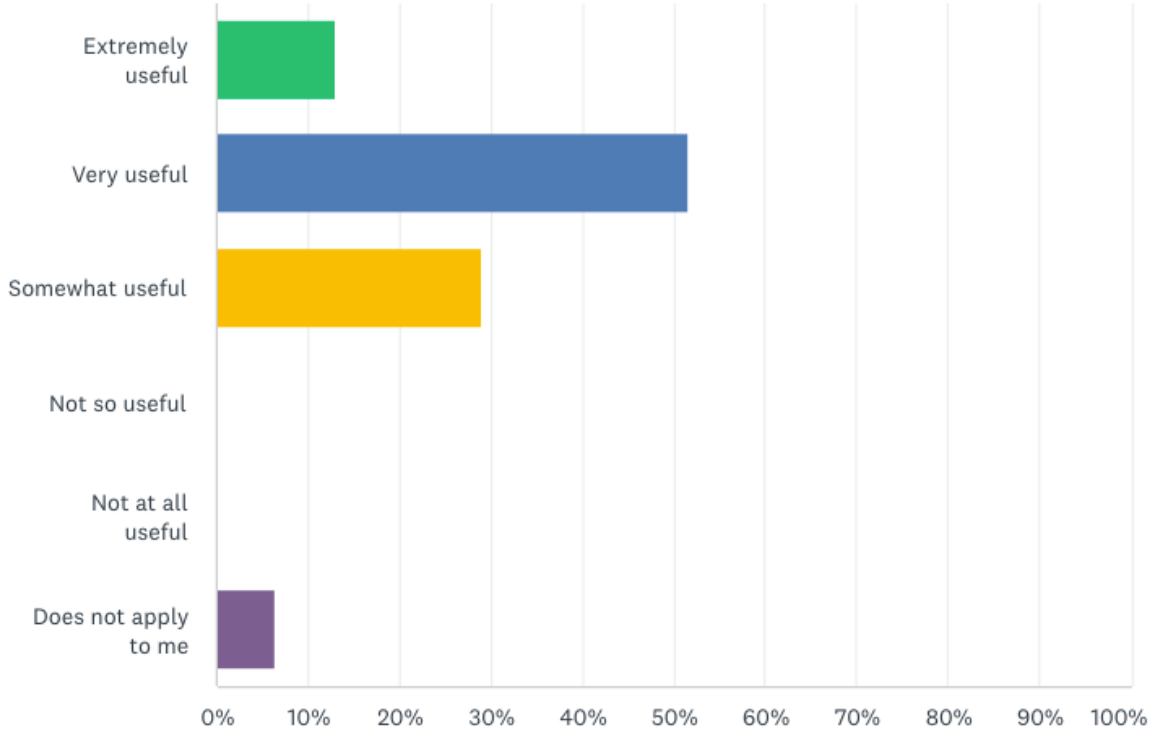
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### *Comment highlights (Question 9 & 10):*

- Pre-testing really helps in figuring out any existing network/firewall issues
- Not always achievable with meeting operational live requirements of our real daily job
- At least make an effort to ensure if [there is an] issue it could be addressed pre actual test
- From an exchange perspective this pre-testing is critical to test successfully to avoid issues on test day when the test window is very tight
- Can be beneficial in some cases, but not all
- Some connectivity issues could be spotted and resolved with early testing
- We were unable to attend one of the three ping test dates prior to the main test, due to conflict on our side. All companies experience resource conflicts on weekends, not helpful or fair to make pre-testing a requirement
- It helps mitigate any connectivity issues ahead of the official test day, and gives participants the opportunity to expose and repair any connectivity issues, which will result in a smoother participation come official test day.

**Question 11 & 12**

To what extent do you feel that the 2020 version of the DR Test Status page (the red/yellow/green indicator page) was useful/not useful?



ANSWER CHOICES	RESPONSES
Extremely useful	12.90% 4
Very useful	51.61% 16
Somewhat useful	29.03% 9
Not so useful	0.00% 0
Not at all useful	0.00% 0
Does not apply to me	6.45% 2
<b>TOTAL</b>	<b>31</b>

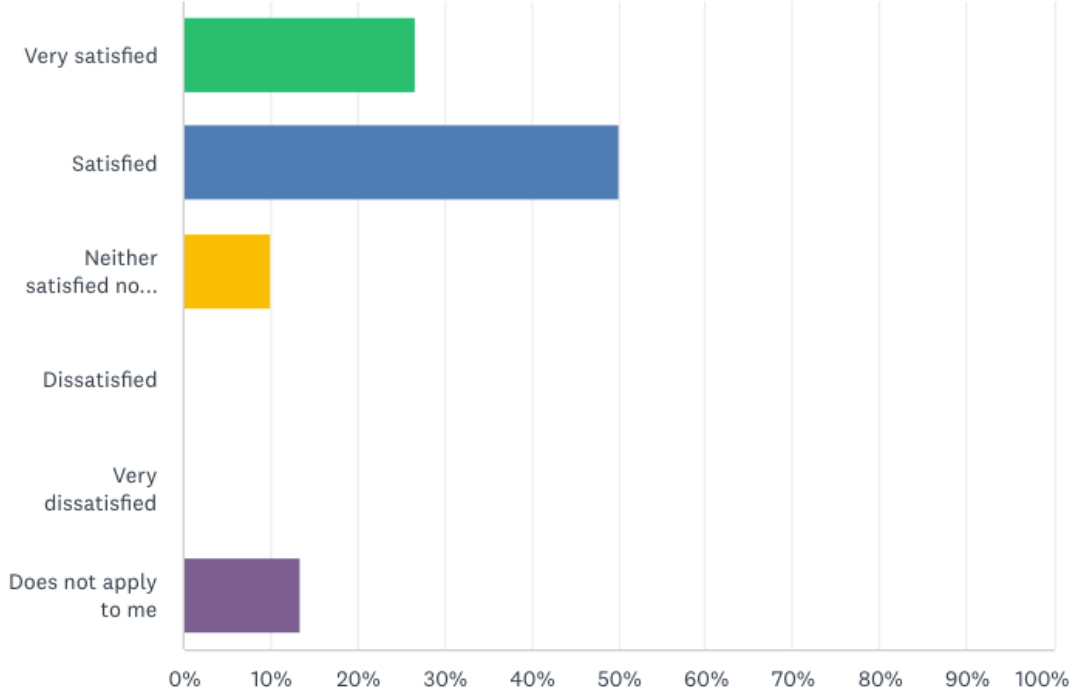
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### *Comment highlights (Questions 11 & 12):*

- Did not refer to it for this exercise
- Seemed ok and later it was not updating to reflect status
- The red light greenlight system does not convey enough information. An exchange can be listed as green even if they are still experiencing issues. Green also means different things at different times during testing, like at one point it could mean the venue is in normal phase or DR phase. Further this system does not convey the readiness of the ISVs who access the markets
- It would be ideal if participants/utilities could update their own statuses in real time
- When I passed this question on to our participating employee, he didn't know anything about a status page
- A page where the participating entities are able to update "real time" would be invaluable. Sitting through call to walk through each is tedious
- This was my first year participating in the DR test, I found it helpful to see what exchanges had delays, and which ones were open especially when we had to step away from the FIA DR conference call.

**Question 13 & 14**

To what extent were you satisfied/dissatisfied with Test Script availability, prior to Test Day?



ANSWER CHOICES	RESPONSES
Very satisfied	26.67% 8
Satisfied	50.00% 15
Neither satisfied nor dissatisfied	10.00% 3
Dissatisfied	0.00% 0
Very dissatisfied	0.00% 0
Does not apply to me	13.33% 4
<b>TOTAL</b>	<b>30</b>

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*Comment highlights (Question 13 & 14):*

- We were able to get all scripts in place well before test day
- One of the exchanges did not provide a script for test day

### **Question 15**

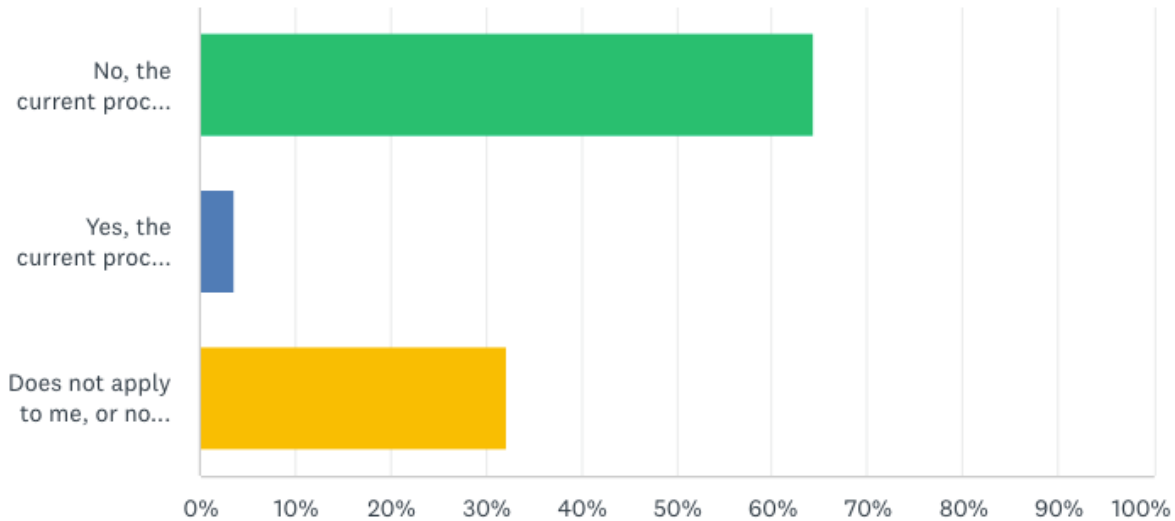
Noting that the registration process was different in 2021 ( a two-step process), what would you improve about the test registration process and/or system? What information is not currently being captured that should be, to make Test prep and Test Day better?

*Responses:*

- I liked the process this year
- I believe that contacts are requested for project leads and technical resources, but it would also be helpful to have the contacts of the users who will actually be performing the testing. Those performing the DR test are often not the same people who perform the normal day to day operations, or pre-testing, so it would be helpful to have their contact info as well.
- More room to assign contacts for specific vendors
- Clearly identifying test day contacts versus those that are not
- Couldn't it be consolidated into one step?
- I thought the two-step process was confusing. None of our information changes from year to year, so it might be helpful to bring up the prior year's information. I don't remember if that happened or not. But I did have trouble getting to the second step.

**Question 16 & 17**

Should FIA change the way that registration and coordination is handled with third-party service providers?



ANSWER CHOICES	RESPONSES	
▼ No, the current process of handling registration and coordination with third-party service providers should not be changed.	64.29%	18
▼ Yes, the current process for handling registration and coordination with third-party service providers should be changed.	3.57%	1
▼ Does not apply to me, or no opinion	32.14%	9
<b>TOTAL</b>		<b>28</b>

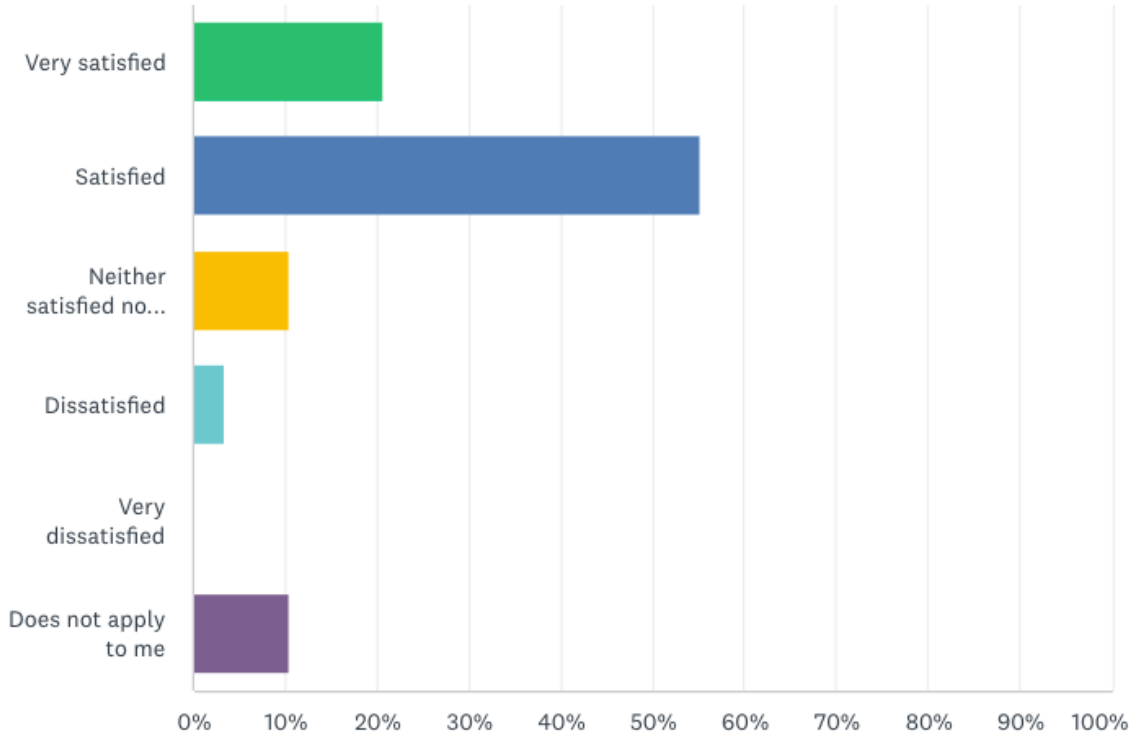
*Comment highlights (Questions 16 & 17):*

- This has improved with Exchanges being able to provide which clients they have registered
- It was confusing for participants, if they were part of the test or not. Would be helpful to add the third parties to the regular test registration
- I think participants should continue to register directly with FIA. However, it would be nice to know which service providers are actively participating.

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### Question 18 & 19

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



ANSWER CHOICES	RESPONSES
Very satisfied	20.69% 6
Satisfied	55.17% 16
Neither satisfied nor dissatisfied	10.34% 3
Dissatisfied	3.45% 1
Very dissatisfied	0.00% 0
Does not apply to me	10.34% 3
<b>TOTAL</b>	<b>29</b>

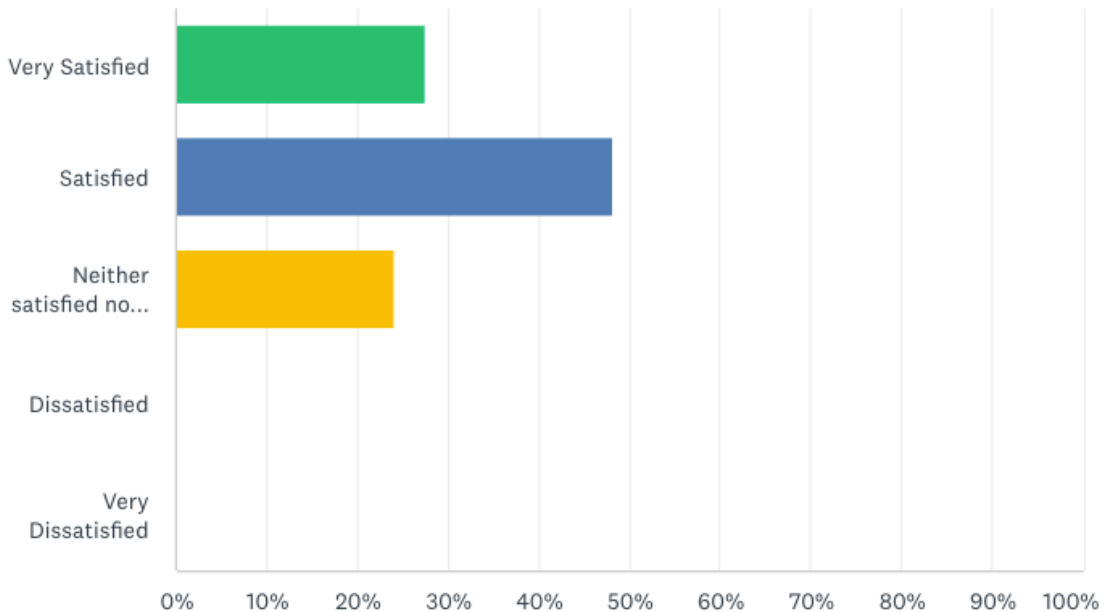


Comment highlights (Question 18 & 19):

- One clearing organization was slow responding to inquiries regarding their test script, provided the script one day prior to the test, and required registration in July or be excluded from testing.
- Our only issue was with [one clearing organization] who said they didn't see our registration for some reason. Not sure what didn't happen, but we'll note and be sure to check in with them for future tests
- Not sure why, but some registrations ended up in my Spam folder. If I hadn't looked in it on test day, I would not have known of those clients' registrations
- This year I received a separate call from [a specific exchange] asking us to provide registration information that we had already provided to FIA. Was there a change in what information was communicated by FIA to the exchanges?

**Question 20 & 21**

To what extent were you satisfied/dissatisfied with the webinar/presentation that was given by Exchanges and Clearinghouses on August 18th?



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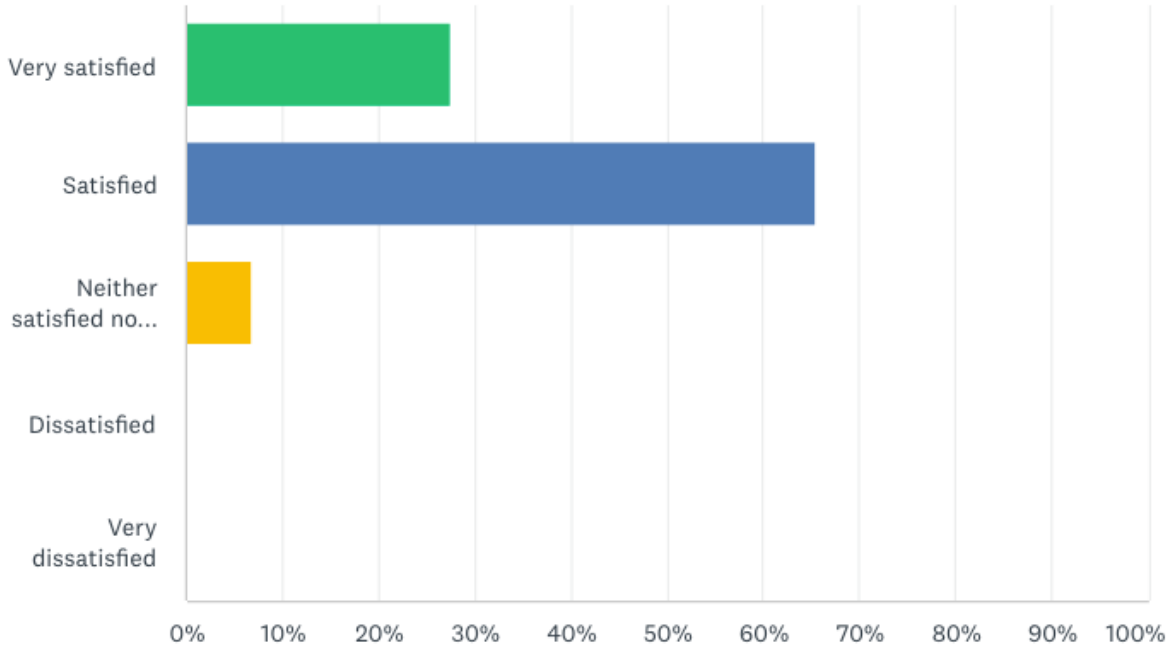
ANSWER CHOICES	RESPONSES
▼ Very Satisfied	27.59% 8
▼ Satisfied	48.28% 14
▼ Neither satisfied nor dissatisfied	24.14% 7
▼ Dissatisfied	0.00% 0
▼ Very Dissatisfied	0.00% 0
<b>TOTAL</b>	<b>29</b>

*Comment highlights (Questions 20 & 21):*

➤ <No comments>

**Question 22 & 23**

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/2021-fia-disaster-recovery-exercise>? (\*Note\* that there was a design overhaul to the main DR Test webpage in 2021, to a minimalist format)



ANSWER CHOICES	RESPONSES
Very satisfied	27.59% 8
Satisfied	65.52% 19
Neither satisfied nor dissatisfied	6.90% 2
Dissatisfied	0.00% 0
Very dissatisfied	0.00% 0
<b>TOTAL</b>	<b>29</b>

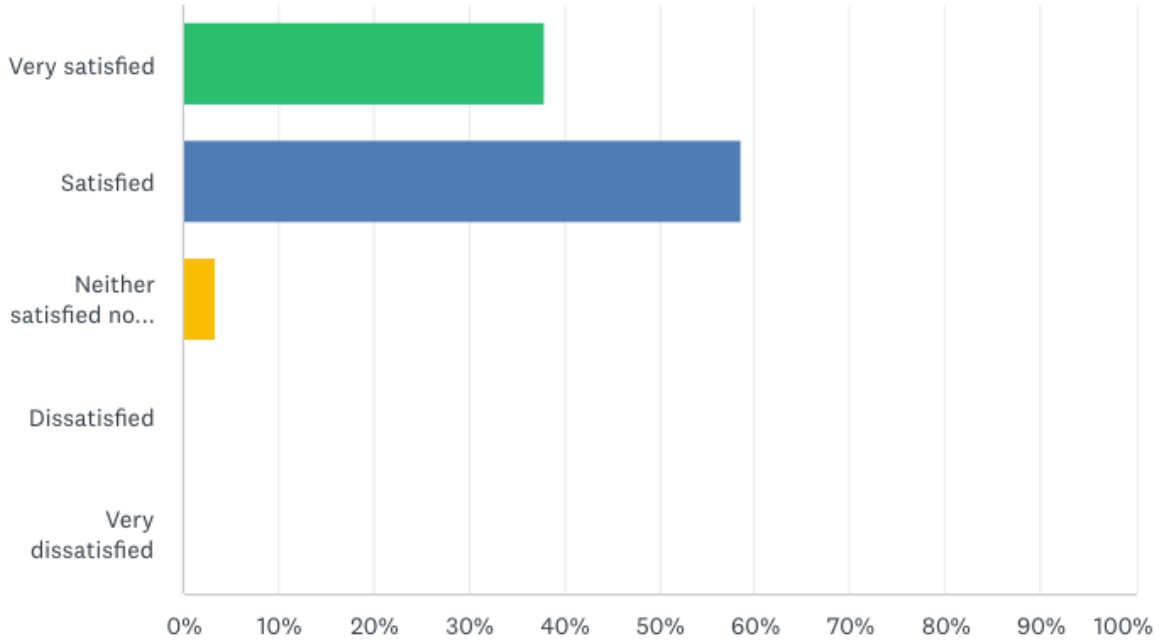
Comment Highlights (Question 22 & 23):

> <No comments>

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**Question 24 & 25**

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 activities?



ANSWER CHOICES	RESPONSES
Very satisfied	37.93% 11
Satisfied	58.62% 17
Neither satisfied nor dissatisfied	3.45% 1
Dissatisfied	0.00% 0
Very dissatisfied	0.00% 0
<b>TOTAL</b>	<b>29</b>

*Comment highlights (Questions 24 & 25):*

- Communications were clear and well timed

**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.

*Summary of Responses (Questions 28):*

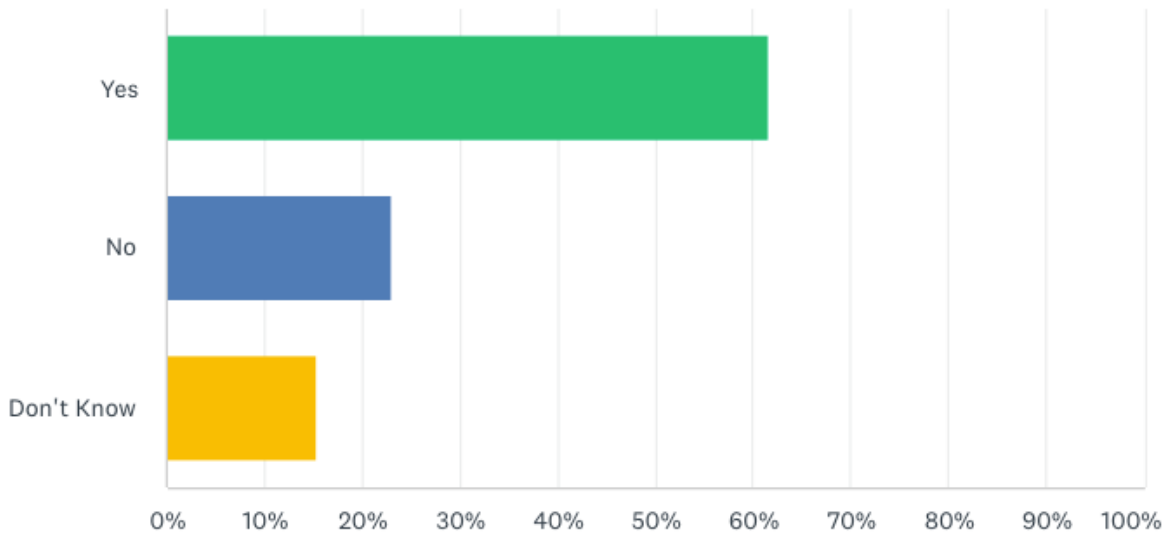
- Atlanta, GA, USA
- Buffalo, NY, USA
- Charlotte, NC, USA
- Chicago, IL, USA (and various suburbs) – multiple responses
- Chicago, IL, USA (downtown)
- Dubai, UAE
- Fort Lauderdale, FL, USA
- Frankfurt, Germany
- Jersey City, NJ, USA
- London, UK – multiple responses
- Mason City, IA, USA
- Milan, Italy
- Minneapolis, MN, USA
- Montreal, Quebec, Canada – multiple responses
- Mumbai, India
- Nashville, TN, USA
- New Jersey, USA (general)
- New York, NY, USA
- Norwalk, CT, USA
- Oakland Park, FL, USA
- Poland (general)
- Portage, Indiana, USA

FIA Market Technology Division

- Putnam Valley, NY, USA
- St. Louis, MO, USA
- Texas, USA (general)
- Woodbridge, NJ, USA

**Question 28**

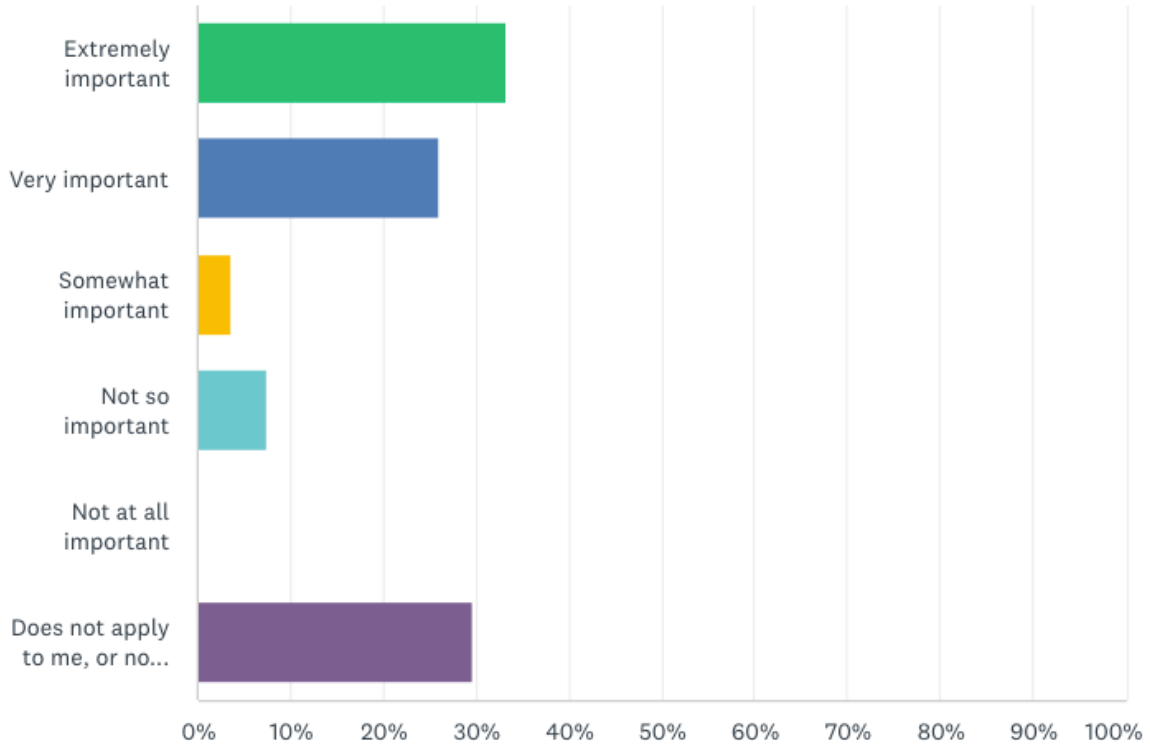
Did your organization also participate in the annual SIFMA test (also on October 23<sup>rd</sup>)?



ANSWER CHOICES	RESPONSES
▼ Yes	61.54% 16
▼ No	23.08% 6
▼ Don't Know	15.38% 4
<b>TOTAL</b>	<b>26</b>

**Question 29 & 30**

To what extent is it important that FIA and SIFMA DR tests be on the same date?



ANSWER CHOICES	RESPONSES
Extremely important	33.33% 9
Very important	25.93% 7
Somewhat important	3.70% 1
Not so important	7.41% 2
Not at all important	0.00% 0
Does not apply to me, or no opinion	29.63% 8
<b>TOTAL</b>	<b>27</b>

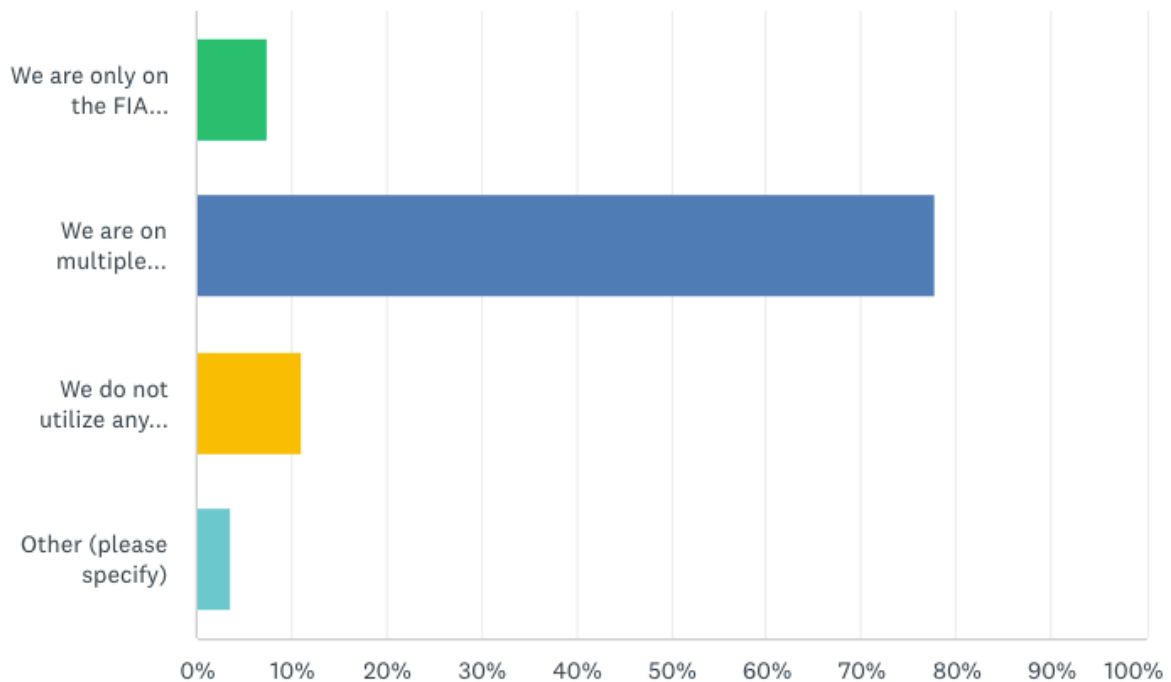
## FIA Market Technology Division

### Comment Highlights (Question 29 & 30):

- Please have the same script requirement. It's a lot to try to please both your organizations. Coordinate only one test script.
- DR test weekends are very tight for availability during any given year, and only becoming tighter, completing these two big tests on a single day is a great use of time
- Our organization requires BCP/DR testing annually and we have utilized the FIA/SIFMA testing for that requirement

### **Question 31 & 32**

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



ANSWER CHOICES	RESPONSES
▼ We are only on the FIA conference bridge on Test Day	7.41% 2
▼ We are on multiple concurrent conference bridges, in addition to the FIA conference bridge, on Test Day	77.78% 21
▼ We do not utilize any Test Day conference bridges	11.11% 3
▼ Other (please specify) <span style="float: right;">Responses</span>	3.70% 1
<b>TOTAL</b>	<b>27</b>



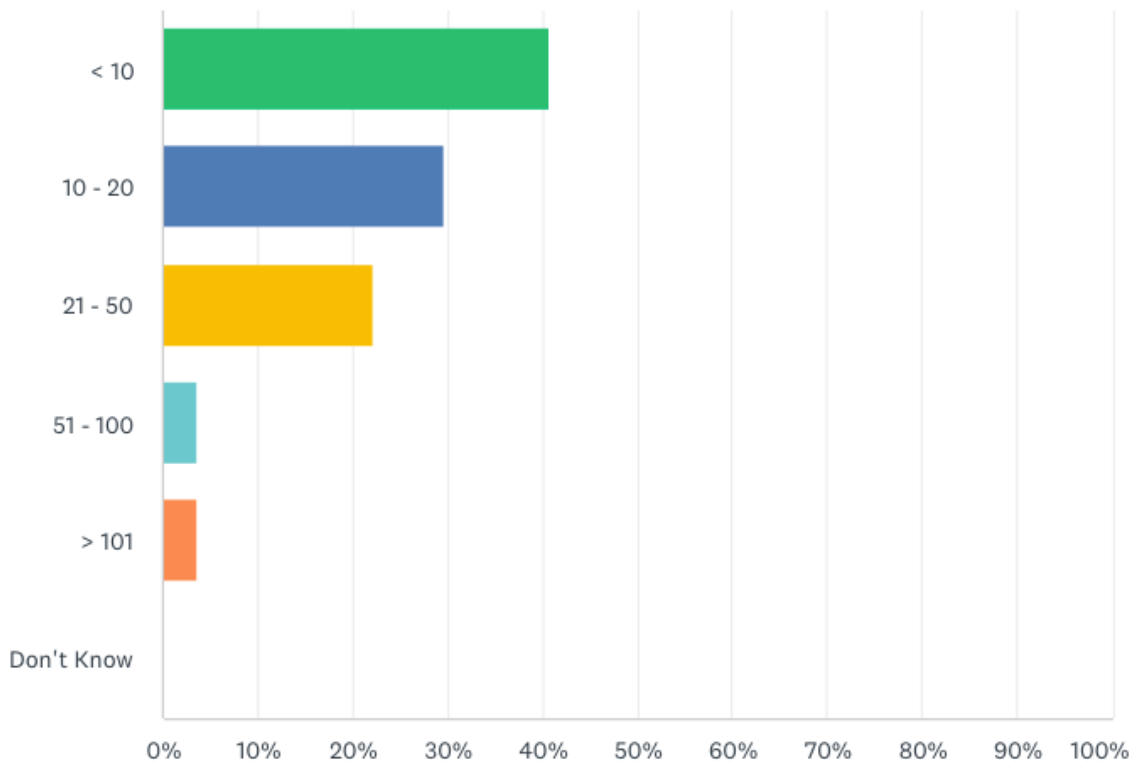
## FIA Market Technology Division

### Comment Highlights (Question 31 & 32):

- FIA-SIFMA-IIROC many bridges and many call in... hard to be everywhere at the same time
- Use the conference bridge for issues or updates. Weren't any this year generic. Other bridges being internal for the testing tasks for clients involved
- We check in on the FIA conference call, but I think it would be much more effective as a group chat, or a group chat/call where calling in is optional
- I juggle between 2-3 conference bridges during test day
- I'm not sure if the guys used the conference bridge at all, but in they did, it would only have been the FIA bridge

### Question 33

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)?

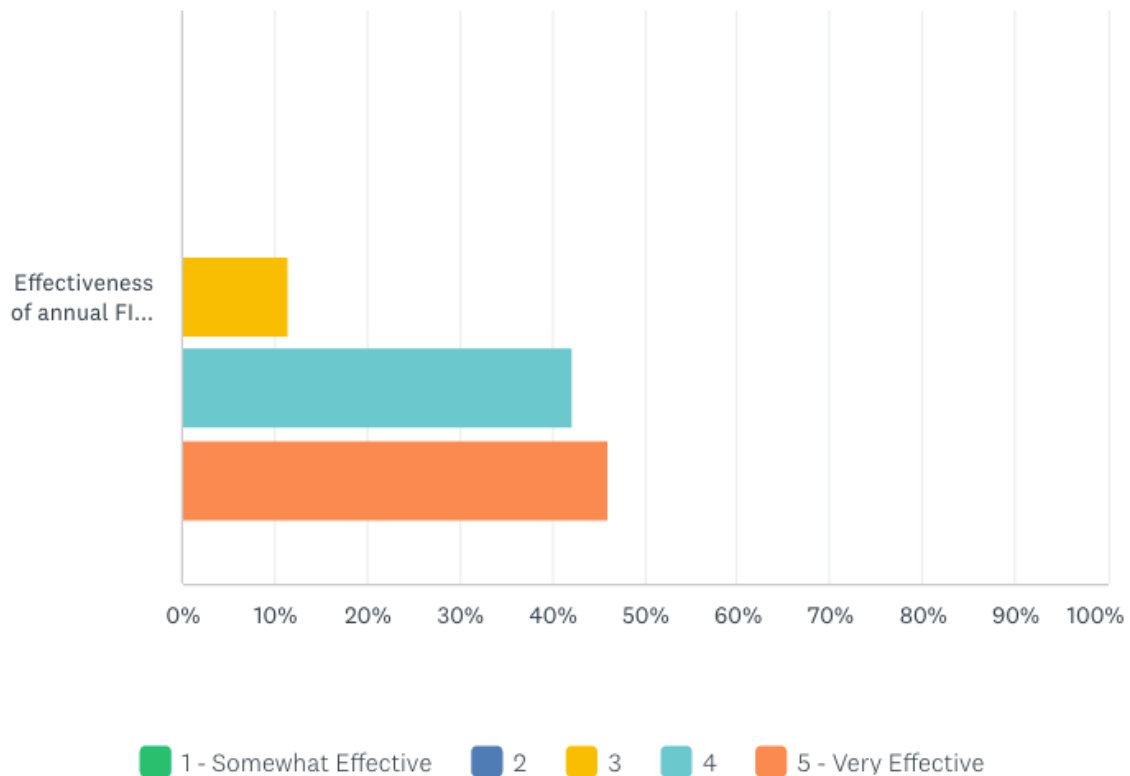


## FIA Market Technology Division

ANSWER CHOICES	RESPONSES	
< 10	40.74%	11
10 - 20	29.63%	8
21 - 50	22.22%	6
51 - 100	3.70%	1
> 101	3.70%	1
Don't Know	0.00%	0
<b>TOTAL</b>		<b>27</b>

### Question 34

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)



FIA Market Technology Division

	1 - SOMEWHAT EFFECTIVE	2	3	4	5 - VERY EFFECTIVE	TOTAL
Effectiveness of annual FIA Disaster Recovery Test	0.00% 0	0.00% 0	11.54% 3	42.31% 11	46.15% 12	26

**Question 35**

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

*Responses (Question 35):*

- Overall it’s very helpful to have a day when we connect to all our providers/exchanges and practice DR and transactions through DR. DR to DR is not a likely scenario, but there is still value in this test. Might be an issue however in the more likely scenario that we are in DR and everyone else is in prod, or just a single major player is in DR, and everyone else is in prod.
- It’s a critical exercise and also provides an opportunity to confirm access for the DR connections, however, it is not clear if it is closely analogues to the outcome we would have if it were production.