

Euronext Playbook for Incident Management

EURONEXT REGULATED MARKETS & MTFs

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EURONEXT

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References

| Acronym | Full name |
|---------|-----------------------------|
| SIP | Serious Incident Process |
| SIC | Serious Incident Committee |
| EMS | Euronext Market Services |
| OCS | Operational Client Services |

1. Introduction

On 29 September 2021, the European Securities and Markets Authority (ESMA), published the ESMA MiFID II/MiFIR report on algorithmic trading. In this report, ESMA provides guidance to trading venues on what is expected from them in case of market outages and calls for a coordinated effort between the industry and regulators to limit the impact of an outage and secure the continuity of trading when there is an outage on the primary market.

Euronext has reviewed and strengthened its Serious Incident Process (SIP) by running firm-wide outage dry-runs and creating more robust communication processes, and has implemented a strengthened framework around system upgrades (software/hardware). In addition, Euronext committed to publish an external outage communication protocol.

Although the operational procedures followed during an incident may vary according to the incident's nature and complexity, these procedures are intended to provide a greater level of transparency and certainty to participants on how Euronext platforms will be managed during an incident¹.

In Europe's still fragmented trading landscape, it is apparent that there is demand for a degree of harmonisation in the management of exchange outages. Various thought pieces and policy documents have been produced by market operators, industry associations and trading firms. It is meant to be a contribution to an ongoing dialogue with peers and clients on this important topic, with a view of reaching a common overarching framework.

This document covers trading platforms operated on the Optiq® trading technology.

¹ Operational procedures are being adopted globally across all Euronext markets. However, due to local differences in organisational structures, services provided and systems supported, there may be a number of regional variations to accommodate individual markets and supporting systems.

2. Incident management at Euronext

An incident is defined as a deterioration of service or a deviation from the service standards. The potential business impact determines whether the incident is classified as a Serious Incident or not. The definition of a Serious Incident (as agreed with the Euronext College of Regulators in 2011) is as follows:

"An event that has caused a market to stop or an event that although the market is still running, a material number of members are prevented from trading for a technical reason. Such events could include, but not be limited to trading engine failures, market data dissemination issues, the calculation and/or publication of Official Index Values, issues with tools used to manage and operate the markets."

2.1 Alerting Phase

When a potential incident occurs, Euronext assesses its severity according to predefined criteria, which may trigger a Serious Incident. In case of doubt, incidents are considered as Serious Incidents until more information is available.

When a Serious Incident is called, a Serious Incident Process (SIP) is launched. This requires all relevant Euronext teams to join the Serious Incident Committee (SIC) to discuss first findings and assess the impact of the incident.

2.2 Response Phase

The SIC ensures that a thorough assessment takes place, including the following elements:

1. Assessment of impacted products, services, markets, partners and clients
2. Definition of priorities
3. Assessment of technical impact and the critical IT system(s) involved, with estimated time to repair
4. Synthesis of an immediate recommendation regarding the alteration of the market state and regular reassessment if new information becomes available
5. Identification, validation and implementation of workarounds
6. Launch of communications processes to our clients, regulators, post-trade partners and other stakeholders
7. Triggering of crisis management / Business Continuity Management processes with impacted (external) partners
8. Identification and implementation of technical recovery solution(s)
9. Identification of root cause and application of permanent fixes.

2.3 Post-incident: mitigation and communication

In the event of a Serious Incident, Euronext will complete the market status communication by the issuance of an Info-Flash after market hours to provide more details on the root cause (if available) and the resolution or mitigation measures that have been taken to prevent any re-occurrence of the incident. In that case, Euronext also provides a detailed report to the Euronext regulators to provide more details on the outage and the mitigating measures that have been undertaken.

3. Areas of focus during outages

Despite a strong operational framework that should prevent the Euronext markets from experiencing a degradation of service and/or outage situations, Euronext may be confronted with degradations of services that could affect our markets or a particular part of our markets.

In such situations, our priorities are as follows:

1. Keep markets open as long as they are operating in a fair and orderly manner.
2. Restore the service as quickly and safely as possible, whilst fulfilling our regulatory responsibilities. This includes securing the consistency between order and trade records at all times and minimising impact on trades (RTS7).
3. Communicate appropriately and in a timely manner to internal and external stakeholders.
4. Prepare a secured end-of-day closing on the day of an incident.
5. Ensure normal trading hours on the day after an incident.
6. Carry out a post-event review and take actions to avoid the recurrence of an outage.

Remediation actions can vary depending on the timing as well as the trading phase during which the incident takes place. As such, Euronext has divided outage situations into four main areas of focus, detailed in the following sections covering communications, restoration of service, closing auctions / end-of-day processing, and orders and trades management.

3.1 Communication

1. After the discovery of a wide-ranging service degradation, it will be promptly reported via the market status webpage (even if the issue is not yet ascertained): live.euronext.com/market-status
2. The market status webpage will be updated every 30 minutes thereafter (even if the situation remains unchanged), together with next steps for incident resolution and/or any other additional information or instructions.
3. Euronext will communicate at least 15 minutes in advance prior to re-opening of the market.
4. In the case of an issue affecting (to a significant degree, i.e. affecting multiple members and markets) the consistency/integrity of orders and/or trades, Euronext will communicate at least one hour in advance prior to any re-opening of the market in order for members to synchronise their books with Euronext.

5. Customers subscribing to the Market Status Alert email notification service will receive System Status alerts by email with details of the alerts posted on the market status webpage: [Connect | My subscriptions](#)
6. For high-severity incidents, an Info-Flash is sent overnight to provide more information and confirm arrangements for the following morning.

3.2 Restoration of service

1. A halted/suspended market will be reinstated to a pre-opening/call phase, to allow members to access their orders.
2. A suspended or halted market shall only resume upon completion of a pre-opening phase of at least 15 minutes. In the case of a continuous failover, i.e. a switch to the back-up system in continuous mode, a specific informational market status message will be published.
3. In the event that the integrity of orders being stored on Euronext systems is compromised, Euronext will perform a global order book purge on all orders (regardless of their type and maturity). When performing such action, Euronext may not be in a position to send individual order cancellation acknowledgments.
4. Trades for which an acknowledgement has been sent by the Euronext trading system and received by a member will be considered as valid (with the exception of trades that are considered to have been conducted under improper conditions or have been individually cancelled by the market operator).

See: [Order withdrawal and trade cancellation](#)

3.3 Closing Auctions and End-of-Day processing

1. In the case of an issue affecting the closing auction whereby Euronext is unable to establish a closing price, the last Traded Price will be used as the official closing price.
2. A Closing Auction cannot take place after 18:15 CET.
3. Euronext may need to delay the closing auction until 18:15 CET and will make its best efforts to determine the official closing prices, taking into account the circumstances surrounding the incident and its resolution.

3.4 Management of orders and trades

In addition to the above focus areas, the integrity of orders and trades is critical to recover services in a successful way.

This paragraph covers the actions that can be taken in the case that circumstances call for emergency actions as part of Rule 1504A, in the general provisions of the Euronext Rule Book I.

Pursuant to Rules 4403/3 and 5403, the link to the notice below sets out the circumstances in which trades can be cancelled under improper trading conditions.

Improper conditions are defined by the Relevant Euronext Market Undertaking in its sole discretion and include, but are not limited to, the following:

1. An event that should have modified the status of a security (opened, suspended, reserved, etc.) or its trading phase (pre-opening / continuous / TAL) has not been taken into account.
2. The status of the security or the trading phase has been unduly modified.
3. Stock events have not been carried out (e.g. stock split, detachment of dividend, etc).
4. The product characteristics officially published and affecting its price are erroneous.
5. And, more generally, parameters applied to the Central Order Book are not consistent with the information available to market participants.

See: [Order withdrawal and trade cancellation](#)

For the avoidance of doubt, in the case of any discrepancy, the provisions in the Euronext Rule Book prevail over this document.

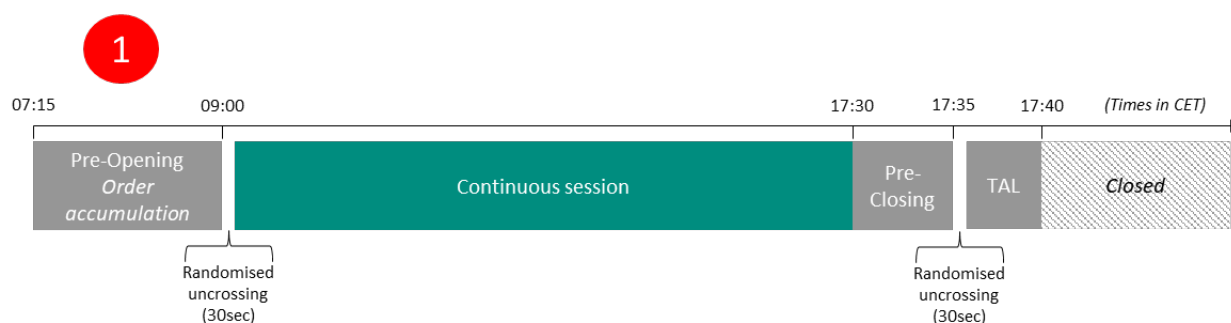
In the appendix to this document, you will find examples of how the above principles are applied during different scenarios.

Appendix: Outage Scenarios and Actions

The complexity of interactions between components of hardware, software and processes means that it is not feasible to set out every permutation of outage causes. However, we can consider two major factors:

- (i) *Time of day and trading phase*: different approaches will be needed depending on when a serious incident occurs (pre-open, continuous session or closing, or crucially *near* to the closing²).
- (ii) *Integrity of orders*: the decision-making process will be different depending on whether the integrity of orders resting in the book is compromised prior to and during a market halt.

Scenario 1: Market Outage prior to the Opening Auction



Incident declared between 07:15 - 09:00 CET

Scenario 1a: the incident has not impacted the integrity of orders

If the incident has no impact on the integrity of orders, Euronext will undertake the following steps:

- Euronext will communicate about the opening time of the market with a minimum of 15minutes prior to the opening auction.
- I.e. In case of a communicated delay of 15 minutes at 08:50 CET the opening auction will be delayed to respect the communicated delay. In this case the opening auction will be triggered at 09:05 CET.

Scenario 1b: the incident has impacted the integrity of orders

If the incident **has an impact** on the integrity of orders, Euronext will undertake the following steps:

² For detailed information on the various timetables please consult the Euronext Trading manual appendix via the following link: [Appendix of Trading Manual 4-01](#)

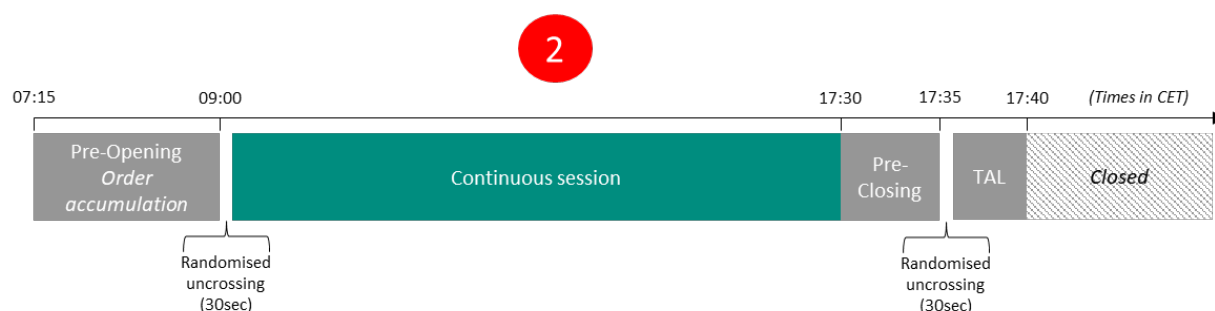
In the case that the outage has impacted the integrity of the orders stored in the matching engine, Euronext may either decide to (depending on the magnitude of the issue):

- Identify the impacted orders and remove them from the orderbook; or
- Perform a global order book purge.

Under both circumstances:

- Euronext will communicate about the re-opening time of the market taking into account the magnitude of the issue. Time of communication can vary between 15-60 minutes prior to the opening auction.
- I.e. In case of a communicated delay of 1hr at 08:30 CET, the opening auction will be delayed to respect the communicated delay. In this case the opening auction will be triggered at 09:30 CET.

Scenario 2: Market outage during the continuous session



Incident declared between 09:00 - 17:30 CET

Scenario 2a: the incident has not impacted the integrity of orders

If the incident has not impacted the integrity of orders, Euronext will undertake the following steps:

- Euronext will communicate about the re-opening time of the market with a minimum of 15minutes prior to the opening auction.
- If this communication would trigger the re-opening in continuous mode after 17:00 hrs CET, Euronext will proceed directly with the closing auction at 17:35 CET and will not re-open the continuous trading session.
- I.e. In case of a communicated delay of 30 minutes at 16:45 CET, the opening auction would normally take place at 17:15 CET. Considering that the re-opening

is taking place after 17:00 hrs, Euronext will proceed directly with the closing auction at 17:35 CET. ³

- If this communication happens after 17:00 CET and before 17:30 CET, the closing auction will be postponed in order to respect the communicated delay, i.e. a communicated delay of 30 minutes at 17:20 CET will trigger a closing auction at 17:50 CET.

Scenario 2b: the incident has impacted the integrity of orders

If the incident **has impacted** the integrity of orders, Euronext will undertake the following steps:

In the case that the outage has impacted the integrity of the orders stored in the matching engine, Euronext may either decide to (depending on the magnitude of the issue):

- Identify the impacted orders and remove them from the orderbook; or
- Perform a global order book purge.

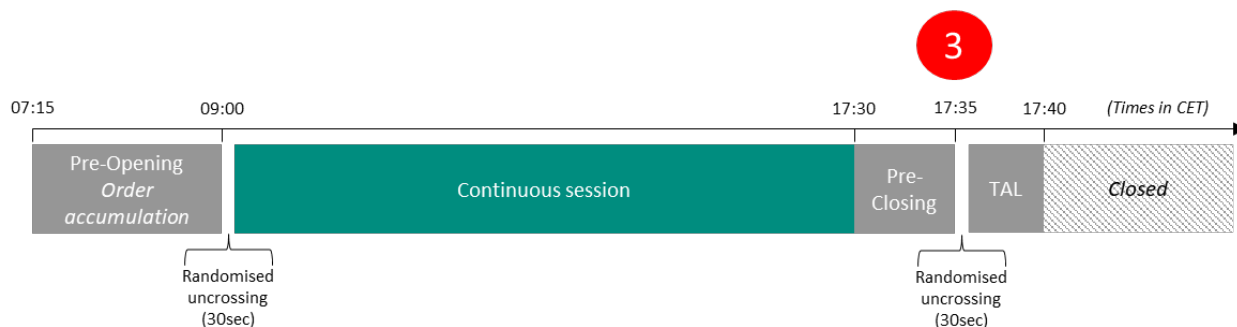
Under both circumstances:

- Euronext will communicate about the re-opening time of the market taking into account the magnitude of the issue. Based on the aforementioned, time of communication may vary between 15-60 minutes prior to the opening auction.
- If this communication would trigger the re-opening in continuous mode after 17:00 hrs CET Euronext will proceed directly with the closing auction at 17:35 CET and will not re-open the continuous trading session.
- I.e. In case of a communicated delay of 60 minutes at 16:05 CET the opening auction would normally take place at 17:05 CET. Considering that the re-opening is taking place after 17:00 hrs, Euronext will proceed directly with the closing auction at 17:35 CET. ⁴
- If this communication happens after 17:00 CET and before 17:30 CET, the closing auction will be postponed in order to respect the communicated delay, i.e. a communicated delay of 60 minutes at 17:05 CET will trigger a closing auction at 18:05 CET.

³ Please note that this process will be applied in accordance with the local trading timetables. I.e. for the Oslo Market, Euronext will not reschedule a continuous trading session if communication happens after 15:00 hrs. CET

⁴ Please note that this process will be applied in accordance with the local trading timetables. I.e. for the Oslo Market, Euronext will not reschedule a continuous trading session if communication happens after 15:00 hrs. CET

Scenario 3: Market outage impacting the closing auction



Incident with closing auction impact

Scenario 3a: no closing auction takes place

In the event that no closing auction takes place before 18:15 CET, Euronext will consider the last trading price as the official closing price of the day.

Communication to the market will be made prior to 18:00 CET in the case that no closing auction will take place on that specific day.

Scenario 3b: the closing auction takes place but trading did not happen in a fair and orderly manner

In the event that trades have been generated during the closing auction but those trades are considered invalid, Euronext will cancel the transactions and the last trading price will be considered as the official closing price of the day.

Communication to the market will be made prior to 19:00 CET.

See: [Order withdrawal and trade cancellation](#)

Support and Information

To guarantee member firms a fair, secure and reliable trading environment, dedicated Euronext market professionals are always on hand to provide advice and ongoing support.

Operational Client Services Desk

Contact the Operational Client Services Desk for all operational queries and support requests:

- across the Euronext Cash Markets, Derivatives Markets and MTFs.
- in both Test (EUA) and Production environments.

Telephone:

| | | | |
|-------------|-----------------|----------|------------------|
| Belgium | +32 2620 0585 | Norway | +31 20 721 9585 |
| France | +33 1 8514 8585 | Portugal | +351 2 1060 8585 |
| Ireland | +353 1 6174 289 | UK | +44 207 660 8585 |
| Netherlands | +31 20 721 9585 | | |

Email: clientsupport@euronext.com

Service hours: 08:00 – 19:00 CET.

Outside of these hours, calls will be transferred automatically to an available Markets Representative (06:30 – 22:30 CET).

Webpage: connect2.euronext.com/operational-client-services

Euronext Market status

live.euronext.com/market-status

