



WEBINAR: Borsa Italiana Migration to Euronext Optiq®

Migration Updates and Testing Kick-Off



EURONEXT

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Speakers



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Agenda

- 1. INTRODUCTION AND TIMELINE**
- 2. EUA OPENING FOR ITALIAN MARKETS**
- 3. TESTING APPROACH AND READINESS NEXT STEPS**
- 4. DELIVERY IN EUA & PRODUCTION UPDATES**
- 5. MARKET UPDATES**
- 6. Q&A**

1. Introduction & timeline

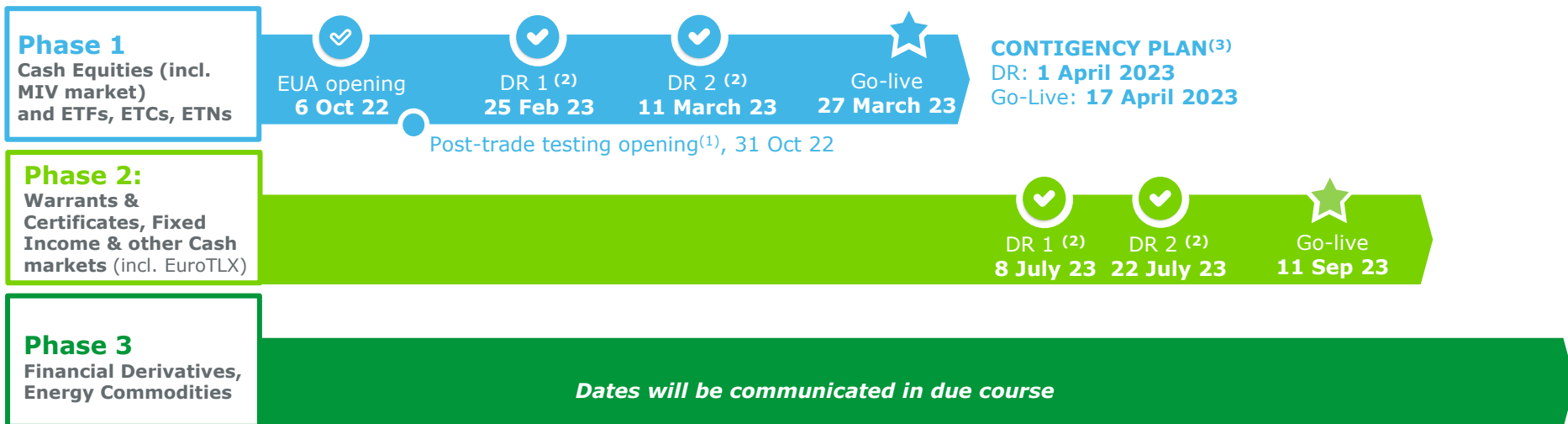


Confirmed migration timeline

OPTIQ ® UPGRADES FOR CLIENTS TRADING ON LEGACY MARKETS:

Changes will be implemented in prod along with project delivery

NEXT CRITICAL RELEASE REQUIRING ADJUSTEMENTS ON CLIENTS' SIDE Cash: **21 Nov 2022** / Derivatives: **28 Nov 2022**



⁽¹⁾ For Clearing Members & settlement agents only

⁽²⁾ Clients' External Dress Rehearsals are executed in Production environment

⁽³⁾ The schedule includes a contingency plan as an emergency measure that would be activated only in the unlikely event that not all testing criteria are fully validated and the Go-Live is at risk

2. EUA Opening for Italian Markets



Overview of Euronext Test Environments

Euronext provides two environments to clients on Optiq Machine Engines and surrounding applications:

- One dedicated to testing for **FUTURE PROD (Next-EUA)**
- One at **ISO PROD (Current EUA)**

NEXT EUA

Environment designed to complete testing on client's side allowing to anticipate upcoming versions of Optiq Matching Engine and SBE templates (incl. functional and technical changes)

Environment to be used for:

- **Functional & technical changes and related testing**
- Front-to-back testing (possible thanks to the existing **link with CCPs**)

Italian instruments will initially be listed in Next-EUA, then progressively move to Current-EUA

PRODUCTION



Upgrade from Next-EUA to Current-EUA aligned with Production go-live of each phase of the migration

CURRENT EUA

Environment designed to complete testing against Production

- Same Matching Engine and SBE Templates as in Production
- Environment allowing to test Trading Algorithms
 - No link with CCP

Testing opening for Italian Markets migrating Phase 1



Optiq Test Environment (Next-EUA) available for Italian Markets as of Thursday 6 October 2022

Clients of the Italian Equity and ETFs, ETCs, ETNs Markets moving to Optiq in Phase 1 are warmly invited to:

- Complete their software developments and configuration
- Start testing

Borsa Italiana Instruments available in Optiq Next-EUA

- **Borsa Italiana Equity instruments** will be available in Optiq Next EUA as of 6 October 2022:
 - ✓ **Euronext Milan (MTA)**
 - ✓ **MIV**
 - ✓ **GEM**
 - ✓ **EGM**

*A subset of equity instruments will be made available in EUA, at least one per typology
All the above markets will be available on the Optiq **Equities** Segment*

- **Borsa Italiana ETFs** (ETFs, ETCs, ETNs & ATFund, all on the Optiq ETF Segment) will be available in Optiq Next EUA as of end of October and **TAH** (on the Optiq Block Segment) will become available by the end of November. *Date will be communicated in due course via Operational Notice*
- ! **Further deliveries and Optiq upgrades in EUA before the go-live of Italian Equity and ETF markets on 27 March 2023**
Stay tuned for updates on new deliveries (sent via dedicated communications)
- Millennium CDS will remain available for clients

Connectivity to the test environments

Clients not yet connected to Optiq EUA

Connectivity for both TCP and Multicast services has been configured on clients' default test connections

Clients already connected to Optiq EUA


- No change needed for TCP (Trading & Drop Copy) connectivity
- New Multicast Channels have been configured on clients' default test connections

- Clients have been (or will shortly be) contacted directly for testing and to **confirm that connectivity is in place for EUA opening**
- **If not done yet, clients are urged to test connectivity** (at least via Telnet and logging in with EUA Logical Accesses provided)
- Clients **willing to change their connectivity set-up** should contact optiqmigration@euronext.com to request the required changes
- Clients **initially connecting to Next EUA from the current Borsa Italiana co-location service** will have to move their EUA connectivity to an alternative solution by the end of the migration

Italian Markets on Optiq


Optiq Partitions

No additional or dedicated Partitions will be added to the Cash Optiq infrastructure for managing Italian instruments

- 
- Partitions (incl. OEGs) already available in **Optiq Next EUA** will be used for trading on Italian Instruments
 - Members already connected to Next-EUA can use their existing Logical Accesses to manage Italian markets
 - IP and Ports are available in public connectivity documentation on Connect website
 - The same approach will be applied for Production
 - As communicated, a new Partition will be added to W&C Segment post the Phase 1 go-live (and partitions may be added on other segments, confirmation will be provided in due course)
-

Market Data

New dedicated Multicast Channels are added for disseminating Market Data for Italian Instruments on MDG

- 
- All IP Address and Ports on the new Italian Multicast Channels are available in MDG public connectivity documentation on the [Connect](#) website
 - Clients connected through vendors also have to check (with the vendor) as soon as possible the correct reception of data to be able to start testing
 - Clients are in charge of ensuring the correct set-up of their connection to access Euronext MDG & OEG

MDG Lite



TCP-compressed version of MDG offering alternative market data on Italian markets (only) with reduced bandwidth (higher latency)

Markets available

All Italian Markets available in **Optiq Next EUA** will be available via MDG Lite, i.e.

- Equity Markets as of 6 October 2022
- TAH, ETF and ATFund by the end of October 2022



MDG Lite will be available in Next EUA as of **6 October 2022**

- **TCP connectivity** (*no Multicast*) has been configured on clients' default test connections **previously enabled to GTP Lite**
- Clients have been contacted directly for testing and to confirm connectivity is fully operational for EUA opening
- **If not yet done, clients are strongly recommended to test connectivity**

3. Testing approach



Phase 1: Clients Testing in Next-EUA

Clients impacted by the go-live of Phase 1 need to complete their developments and start testing in Next-EUA as soon as possible

Testing should be completed before the first Dress Rehearsal

To note:

- Success of the test(s) will need to be confirmed by the client through **dedicated webforms**
- For clients already connected, tests will have to be managed following the sequence of functional deliveries

	Clients not yet connected to Optiq	Clients connected to Optiq		
		Trading on Borsa Italiana markets (common)	Trading on legacy markets	
Functional Tests	✓	✓ along with project deliveries	✓ along with project deliveries	From October '22
Market Data Gateway	✓	✓	✓ If new channels subscribed	
TCS (GUI)*	✓	✗	✗	
SLC/Transaction Reporting	✓	✓	✗	
Conformance Test	✓ Full	✓ along with project deliveries	✓ along with project deliveries**	From November '22
High Availability	✓	✓	✓	
Throttling	✓	✓	✗	
Front-to-Back	✓	✓	✓	

Mandatory
 Strongly Recommended
 Optional or N/A

*For clients who opt in for the service / TCS OEG testing will be managed through conformance test
 **Depending on client set-up and implantation, please contact us for further information and guidance

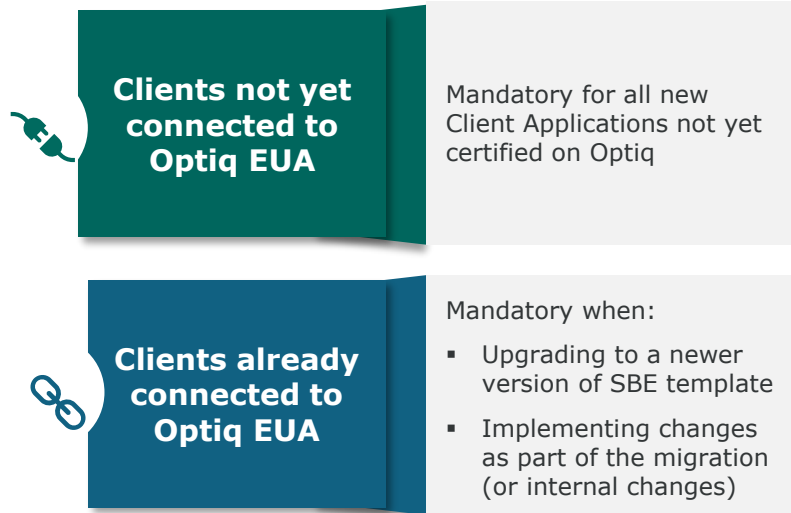
Conformance Tests



Conformance Tests are planned to start in November 2022

- Conformance tests must be completed by **the first Customer Dress Rehearsal planned on 25 February 2023 for:**
 - ✓ **Clients developing in-house** trading and drop copy applications
 - ✓ **Software Vendors**
 - ✓ Clients not developing in-house solution but using software provided by ISVs (*light conformance test*)
- **Clients are asked to book their conformance** test by contacting optiqmigration@euronext.com
- Conformance Test documentation and scripts are already available on the **Connect** website

 **ISVs need to refer to the delivery schedule and plan deliveries early enough for their clients to be ready on time**

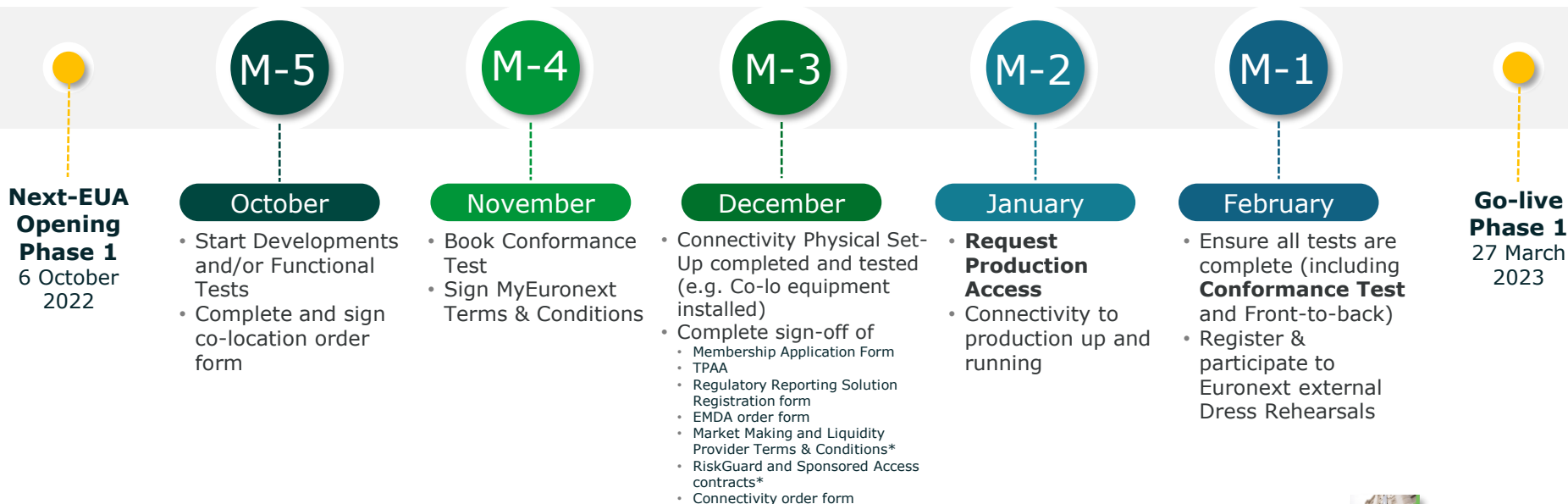
Please note that Next EUA is closed for weekly maintenance on Wednesdays until 14:00 CET



 Clients not yet connected to Optiq EUA	Mandatory for all new Client Applications not yet certified on Optiq
 Clients already connected to Optiq EUA	Mandatory when: <ul style="list-style-type: none">▪ Upgrading to a newer version of SBE template▪ Implementing changes as part of the migration (or internal changes)

Phase 1: Migration next steps overview

Clients impacted by the phase 1 need to carefully manage their readiness in EUA and PROD to be prepared for 27 March 2023
For that purpose they need to follow the several steps required before the go-live of Phase 1, as detailed in the migration guidelines document



The Migration Guidelines document is available for details on all the steps and related modalities of the migration.
At the end of the document, a checklist is available for clients.



Colocation and Connectivity Update

1 Colocation and CMC Price lists will be updated shortly with the Application Service Fees (ASFs) applying to the new Market Data channels for Italian Markets

2 New packages will be introduced to provide finer granularity to Members and Service Providers, especially to clients active in a subset of Euronext markets, e.g. Oslo market as well as Borsa domestic clients

Effective date to be provided shortly

New Euronext Managed Connectivity (EMC)

- 3**
- **New offer provided to Members and Service Providers** as an alternative to Client-Managed Connectivity (CMC), offering **fully managed connectivity to Euronext Data Centres and Points of Presence**: Aruba IT3, St Denis, Interxion 1 (LDN), Equinix Slough, and Milan (BT)
 - Additional bandwidth options available compared to CMC options: 2MB and 10MB
 - All documentation will be available on the Connect Portal in the coming days

For more information, please contact your Sales Representative or optiqmigration@euronext.com

5. Update on delivery in EUA and Production



General approach for delivery in EUA & Production



Phased approach delivery

Clients are reminded that features for both Euronext Legacy and Italian markets **will be delivered first in Next-EUA** and implemented in Production following a **phased scheduled approach**

Some features may be implemented in EUA in multiple batches, and be fully activated at a later stage



Specific communication path per batch of delivery

Dedicated communication is being built to support clients in their development and testing of the different features

Each batch of delivery is accompanied by minimum 4 communications:

- ✓ **Operational Notice** describing each batch and associated technical documentation updates (external specifications)
- ✓ **Info-Flash** for **Next-EUA opening**
- ✓ **Info-Flash** for **Production opening**
- ✓ **Detailed documentation** on **specific functionalities impacting clients** / Specific functional background

Clients are also invited to consult the Guide to the Trading Systems



Careful management of SBE upgrades

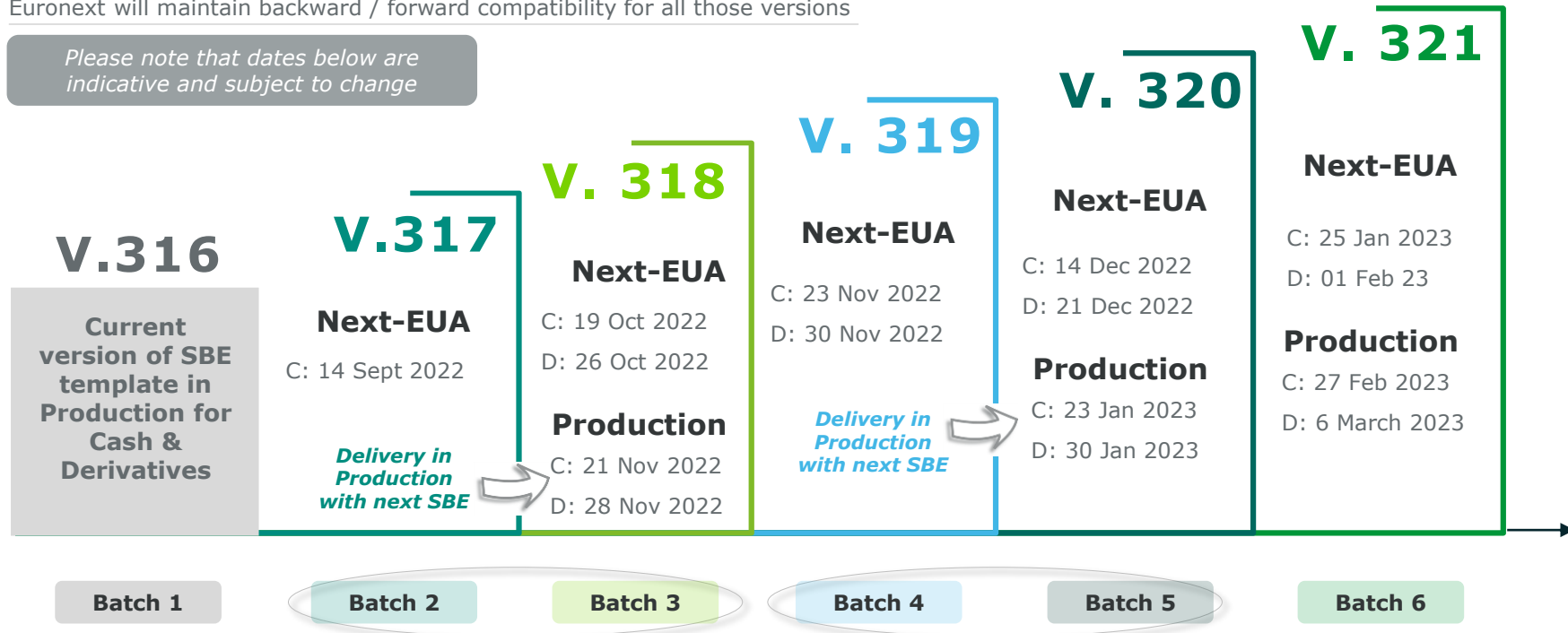
Clients are also reminded to pay attention to the **SBE template upgrades**, and ensure that their applications support the Euronext backward / forward compatibility rules

Anticipated SBE deliveries in EUA and Production

The table below presents an overview of the different SBE Template upgrades planned until the Go-Live of Phase 1 of the Borsa Italiana Optiq Migration

Euronext will maintain backward / forward compatibility for all those versions

Please note that dates below are indicative and subject to change



Delivery of Services in EUA & Production (1)

Indicative timeline & SBE version, subject to change

	Mandatory / Optional	Next - EUA Testing	Go-Live (PROD)	Targeted min SBE for the change
Random Uncrossing	<input checked="" type="checkbox"/>	✓ Cash (EQT & ETF): Fully available since 7 Sept 2022	✓ Cash (EQT & ETF): 10 Oct 2022	EUA & PROD: 316
Addition of Trading capacity field to End of Day Files	<input type="checkbox"/>	✓ Cash ⁽¹⁾ : Fully available since 27 July 2022	✓ Cash: 12 Sept 2022	Not Applicable
Population of short codes on TCS	<input checked="" type="checkbox"/>	✓ Cash ⁽¹⁾ : Fully available since 27 July 2022	✓ Cash: 12 Sept 2022	Not Applicable
Closing Price	<input checked="" type="checkbox"/>	<ul style="list-style-type: none"> ✓ Equities & ETF⁽¹⁾ : Fully Available on 7 Oct 2022 (partially since Summer) ✓ W&C: Fully available on 23 Nov 2022 	<ul style="list-style-type: none"> ✓ Equities & ETF: 21 Nov 2022 ✓ W&C: 23 Jan 2023 	EUA & PROD: 313
Trading capacity cross for Optiq & TCS	<input checked="" type="checkbox"/>	✓ Cash ⁽¹⁾ : Available since 14 Sept 2022	✓ Cash: 21 Nov 2022	EUA & PROD: 316

Mandatory Optional and/or depending on client's set-up



The Borsa Italiana migration onto Optiq and related changes are subject to regulatory approval

(1) Activation is following a phased approach

Delivery of Services in EUA & Production (2)

Indicative timeline & SBE version, subject to change




	Mandatory / Optional	Next EUA Testing	Go-Live (PROD)	Targeted min SBE for the change
Order Price Control Collar <i>Collar Mechanism & Automated Price Fluctuation files</i>	✓	✓ Equities & ETFs ⁽¹⁾ : since 14 Sept 2022 ✓ Fixed Income ⁽¹⁾ : 19 Oct 2022	✓ Cash: 21 Nov 2022	EUA & PROD: 316
Trade Unique Identifier <i>New TVTIC for all markets</i>	✓	✓ Cash ⁽¹⁾ : Fully available since 28 Sept 2022 ✓ Derivatives ⁽¹⁾ : Fully available on 5 Oct 2022 <i>Testing with CCPs available from October</i>	✓ Cash ⁽²⁾ : 21 Nov 2022 ✓ Derivatives ⁽²⁾ : 28 Nov 2022	EUA & PROD: 316
RiskGuard <i>Pre-Trade Risk Management Service for Cash Markets</i>	✗	✓ Kill Switch Block: Since 14 Sept 2022 ✓ Order Amount Limit: 19 Oct 2022	✓ Kill Switch / Block: 21 Nov 2022 ✓ Order Amount Limit: 21 Nov 2022	EUA: 317 / 318 PROD: 318⁽³⁾
Trading Capacity Control	✓	✓ Cash ⁽¹⁾ : Fully available on 19 Oct 2022	✓ Cash: 21 Nov 2022 <i>For legacy clients, target is to start order rejections as of this date</i>	EUA & PROD: 317

✓ Mandatory ✗ Optional and/or depending on client's set-up

(1) Activation is following a phased approach
 (2) Already live – usage as unique TVTIC becoming mandatory for all clients
 (3) For user notifications and reject messages - RiskGuard messages are in FIX format

Delivery of Services in EUA & Production (3)

Indicative timeline & SBE version, subject to change

	Mandatory / Optional for legacy clients	Next EUA Testing	Go-Live (PROD)	Targeted min SBE for the change
Common File Transfer <i>SFTP Protocol (target)</i>	 (1)	<ul style="list-style-type: none"> ✓ EFS: 6 Oct 2022 ✓ Reconciliation files: 23 Nov 2023 ✓ EOD: 14 Dec 2022 ✓ MyEuronext: Q1.2023 	<ul style="list-style-type: none"> ✓ EFS: 21 Nov 2022 ✓ Reconciliation files & EOD: 23 Jan 2022 ✓ MyEuronext: Q1.2023 	Not applicable
Maximum quantity controls <i>via MDG & Standing data</i>		<ul style="list-style-type: none"> ✓ Cash⁽¹⁾: Fully available on 19 Oct 2022 	<ul style="list-style-type: none"> ✓ Cash: 21 Nov 2022 	EUA & PROD: 318
High Availability Improvement <i>Continuous Failover</i>		<ul style="list-style-type: none"> ✓ Equities: 25 Jan 2023 	<ul style="list-style-type: none"> ✓ Equities: TBC 	EUA: 321 PROD: TBC
MyEuronext Portal	 As a target	<ul style="list-style-type: none"> ✓ Phased approach from October 2022 starting with Logical Access module Detailed communication will be shared with clients in due course 		Not applicable

 Mandatory
  Optional and/or depending on client's set-up

(1) Target protocol for all clients of Euronext with the delivery of the full platform in Q1.2023 – at this stage, mandatory for Italian clients only

Delivery of Services in EUA & Production (4)

Indicative timeline & SBE version, subject to change

	Mandatory / Optional	Next - EUA Testing	Go-Live (PROD)	Targeted min SBE for the change
ATFund transfer to TCS	<input checked="" type="checkbox"/> For clients trading on ATF	✓ ETFs: will be communicated in due course	✓ ETFs: For phase 1 go-live	TBC in due course
RFQ Model upgrades	<input checked="" type="checkbox"/>	✓ ETF: 14 Dec 2022	✓ ETF: For phase 1 go-live	EUA: 320 PROD: TBC
New Post Trade Data feeds <i>Changes in standing Data file & EOD</i>	<input checked="" type="checkbox"/>	✓ Cash Equities & ETFs ⁽¹⁾ : Fully available on 23 Nov 2022	✓ Cash Equities & ETFs ⁽¹⁾ : 23 Jan 2022	N/A
Equity public offers (IPO), takeover bid service & unexercised right offering	<input type="checkbox"/>	✓ Cash Equities & ETFs ⁽¹⁾ : Fully available on 14 Dec 2022	✓ Cash Equities & ETFs: Complete delivery for phase 1 go-live	EUA & PROD: TBC
OTR & HFT reports	<input checked="" type="checkbox"/> For Italian clients only for OTR	✓ HFT: 14th of Sept 2022 ✓ OTR: Fully available on 19 Oct 2022	✓ HFT: 21 Nov 2022 ✓ OTR: For phase 1 go-live	Not Applicable

Mandatory
 Optional and/or depending on client's set-up

(1) Activation is following a phased approach

6. Market updates



RiskGuard Update

Extension to Euronext Cash markets and Sponsored Access

Controls already available in Next-EUA environment since **14 September 2022**:

- **Kill Switch**: 'Suspend' command to allow a Risk Manager to pull orders and stop a Client trading activity on one or all Optiq segments
- **Contract Restrictions (Block)**: Prevent order submission in a specific instrument when a Client or Firm does not have permission to trade

The control below will be available in Next-EUA environment on **19 October 2022**:

- **Order Amount Value**: Set a Maximum Order Value for Buy and Sell orders at Instrument level

Risk Managers are given the flexibility to set such commands at different levels i.e. FirmID, Logical Access, ExecutionWithinFirm, ClientIdentification short codes depending on their risk profile

Maximum Exposure Position and Sponsored Access

Euronext is still working on the implementation timetable of the **Maximum Exposure Position (MEP)** allowing Risk Managers to limit the daily maximum long or short exposure of the risk-monitored entity as well as the commercial go-live of Sponsored Access – more information will be provided in due course

Go-Live of the service planned ahead of the migration on **21 Nov 2022** for the following Optiq segments of Euronext legacy markets:

- Equities
- Funds
- Fixed Income*

How to access the RiskGuard service

WHO CAN ACCESS

- General Clearing Members (GCMs), to monitor their NCM
- Euronext Trading Members, to monitor their firm's or clients' trading

FIX 5.0 API

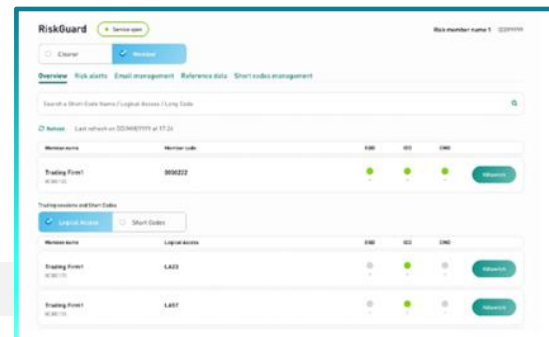
- Available for Cash and Derivatives
- RiskGuard messages are integrated within the Optiq OEG FIX 5.0 API
- All RiskGuard controls can be set, amended, de-activated using dedicated FIX Logical Accesses (*low capacity*)

HOW TO BE GRANTED ACCESS

- Sign the Risk Management Services Agreement and MyEuronext T&C*
- Complete and sign the Statement Of Authority as a Trading Member and / or as a GCM (*one SOA per NCM is needed*)
- Order dedicated RiskGuard Logical Accesses for EUA and Production

WEB-BASED USER INTERFACE

- **New interface available on Derivatives markets since Q2 2022** covering all controls + additional features such as *email alerts*
- Accessible through MyEuronext Portal
- MCAs should initially create Risk Managers through the Connect portal and assign them a profile for the application



Specific documentation for Sponsored Access will be communicated in due course

ATFund Overview



- The **ATFund** market (currently managed on the Millennium IT platform) will be migrated onto the **Euronext Trade Confirmation System (TCS)**
- **ATFund** will remain a **Multilateral Trading Facility (MTF)**
- Clients can access to TCS either via OEG (FIX or SBE Logical Accesses) or Web GUI
- Settlement process will remain unchanged

ATFund – Roles and Market Model Main Changes

Roles

Market Participants



- Negotiation activity through order entries

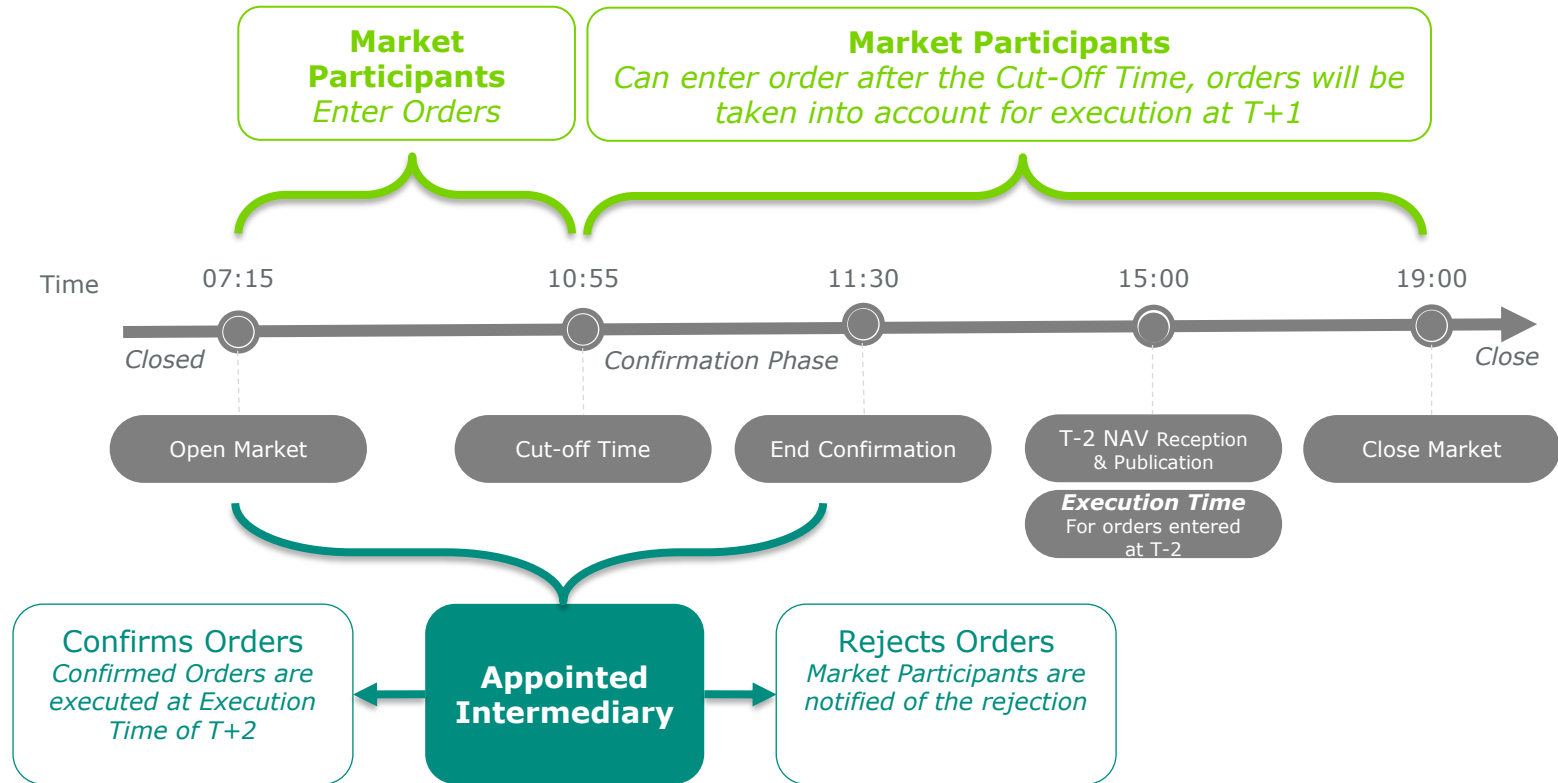
Appointed Intermediary



- Accepting / Rejecting Orders
- NAV/Execution Price uploading delegated by the Issuer

Current	Future
The Trading Phase consists of an <i>Auction</i> between 08:00 and 11:00 CET (call at 11:00)	Trading is open between 07:15 and 19:00 CET
The <i>Appointed Intermediary</i> is asked to enter an order at the end of the auction covering the difference in quantity between bid and ask	The <i>Appointed Intermediary</i> is asked to match all single orders entered by Market Participants during the <i>Confirmation Phase</i> (10:55 – 11:30)
The Appointed Intermediary enters the NAV Price at 15:00 T+2	

ATFund Trading Cycles



Timetable Changes

As of day-1 of the go-live phase 1 of the migration, timetable changes will be applied* to all clients on Equities and ETF, ETCs and ETNs markets

EQUITIES

07:30

Opening Auction anticipated at 07:30 CET (for markets with an Opening Auction)

17:35 – 17:40

Trading at Last (which will replace CPX) from 17:35 to 17:40 CET (CPX currently lasts until 17:42):

- Effective TAL start depends on the 30 sec random closure of closing auction
- Only Euronext Milan (MTA) and Bit GEM have TAL

ETFs, ETCs, ETNs

07:30

Opening Auction anticipated at 07:30 CET

* Subject to regulatory approval



7. QUESTIONS & ANSWERS SESSION



If there is not enough time to answer your questions, we will get back to you following the presentation. Thank you!



Obrigado

Dank Je

Merci

Grazie

Takk

Thank You

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