

A photograph of the Oslo Børsen building, a neoclassical structure with a pediment and columns. The word 'BØRSEN' is inscribed above the entrance. A statue stands in the courtyard in front of the building. A teal semi-transparent banner is overlaid across the middle of the image.

# Oslo Optiq® Technical User Group



OSLO BØRS

May 2020

# AGENDA

## 1

### Project Overview

*Torbjørn Vik*

*Cash & Derivatives*

*Lene Refvik*

*Market Data*

- Migration Timeline
  - *Appendix for more details*
- Technical Documentation
- Market Data

## 2

### Membership

*Frank Boekhoff*

*EMS Market Access*

- Onboarding Process

## 3

### Getting Access

*Nicole Agopian*

*Head of Technology*

*Partnership*

- Milestones to Go-Live
- Member connectivity
- Connectivity to EUA
- Conformance Test
- Dress Rehearsals

## 4

### Q&A

*Isabell Moessler*

*Head of Business*

*Management*

# 1. PROJECT OVERVIEW

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# 1. 2 TECHNICAL DOCUMENTATION

## 1. Register at connect 2:

- <https://connect2.euronext.com/>



**EURONEXT**

Customer portal

- Register for euronext info flash
- Technical documentation

## 2. Stay updated via DELTA Announcements:

- <https://www.oslobors.no/Oslo-Boers/Handel/Delta/Optiq>



## 3. Support

- [technicalsupport@oslobors.no](mailto:technicalsupport@oslobors.no)
- [clientsupport@euronext.com](mailto:clientsupport@euronext.com)

# 1. 3 MARKET DATA

A summary of the main changes

## Technical Migration to Optiq

*Timelines and progress as presented part I.*

## Real Time Licensing and agreements

*Deadline July 1st*

- **New market data agreements** to be signed with Euronext by July 1<sup>st</sup>.
- **Contact:** Euronext licensing manager or [databyeuronext@euronext.com](mailto:databyeuronext@euronext.com)

## Non Real Time Data

*Announcement in June*

- Includes Corporate action-related products, index weights, end of day products, etc.
- Changes to **agreement, commercial model, technical delivery and distribution** to be announced in June.



General: [Lene.Refvik@oslobors.no](mailto:Lene.Refvik@oslobors.no)

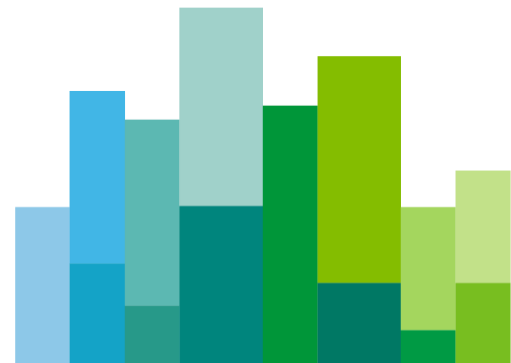
Technical and functional changes: [Christian.Pettersen@oslobors.no](mailto:Christian.Pettersen@oslobors.no)

## Indices

*Consultation Deadling June 1st*

- **Index rules and methodology** for Oslo Børs equity indices to be harmonized with Euronext.
- Proposed changes include **classification of companies** (GICS to ICB), **free float**, etc
- <https://live.euronext.com/en/products/indices/consultations/oslo-bors-indices>

## 2. MEMBERSHIP



## 2. 1 ONBOARDING PROCESS - TRADING MEMBERS

### Onboarding Trading Members (amended procedure)

#### 1. Submit the Euronext Member Document Pack

- Euronext Membership Update Form
- Registration or Key Contacts:
  - **Authorised Representatives:** authorised to sign all Membership related documents (Compliance/Management)
  - **Responsible Persons:** directly linked to trading activities and first point of contact for our Market Services team (HoT/Sr. Trader)
  - **Member Connectivity Administrators (MCA):** the only individuals authorised to request/amend/terminate access to the exchange (IT/System)
  - **Connect accounts**
- Trading Platform Access Agreement
- SLC Manager Form for Short-Long-Code management in Saturn



**Membership** (documentation and first onboarding)

[euronextmembership@euronext.com](mailto:euronextmembership@euronext.com)

#### 2. Technical Onboarding

- Membership will be configured in test environments
- MCA can order Logical Accesses (Connect)
- Conformance Test



**Customer Access Support** (technical onboarding) [cas@euronext.com](mailto:cas@euronext.com)



## 2. 2 ONBOARDING PROCESS - SERVICE PROVIDERS

### Onboarding Service Providers (amended procedure)

#### 1. Submit Service Provider Agreement

- Sign a Service Provider Agreement (Separate SPA for ASP and ISV)
- Provide proof of authority for Signatories.



**Membership** (documentation and first onboarding)  
[euronextmembership@euronext.com](mailto:euronextmembership@euronext.com)

#### 2. Technical Onboarding (only for ISV)

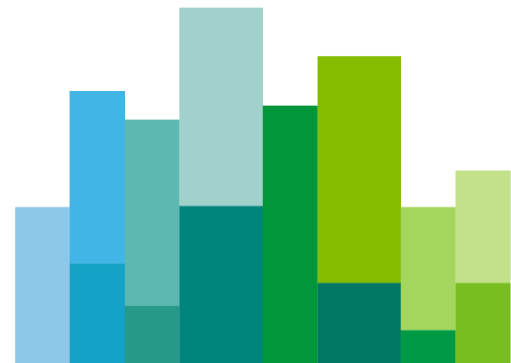
- Register Member Connectivity Administrators (MCA)
- MCA order Logical Accesses for test environment
- Conformance Test



**Client Support** (*conformance testing*)  
[clientsupport@euronext.com](mailto:clientsupport@euronext.com)

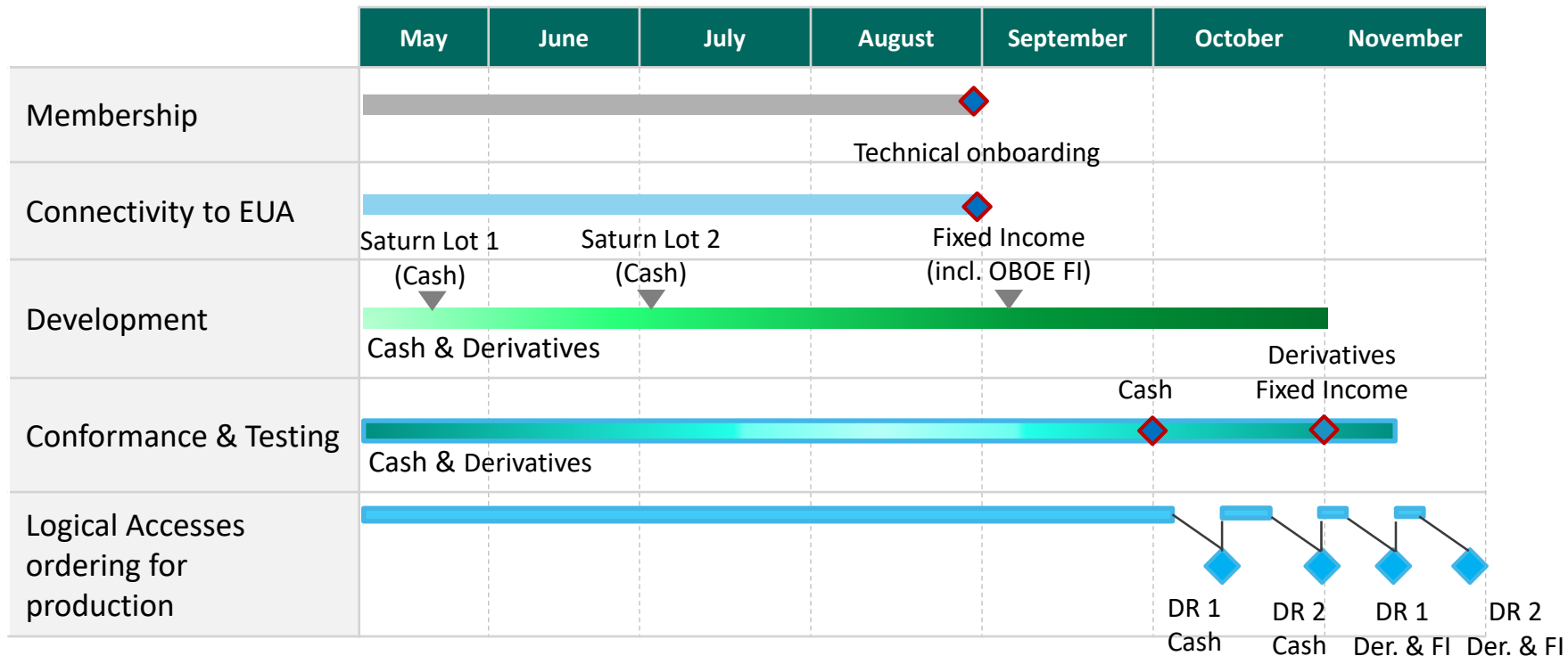
### 3. GETTING ACCESS

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### 3. 1 THE STEPS TO BE READY FOR GO-LIVE

#### Main milestones



## 3. 2 MEMBER CONNECTIVITY

### SFTI Connection

- **Members not yet connected to SFTI® must order connectivity as quickly as possible to start testing**
  1. Via FNN for local members in Oslo
  2. SFTI direct connection: availability of a new PoP in Stockholm
  3. Indirect connectivity via Extranet Service Provider (ESP) or Application Service Provider (ASP) – *new ASPs must sign the ASP Agreement before being granted access for their customers*
  
- **Connectivity to LCH for new Derivatives Clearing Members**
  1. Direct line to LCH or via Application Service Provider
  2. eCCW web-based solution

## 3. 2 MEMBER CONNECTIVITY

### Market data channels

<b>Cash Market</b> <i>(Equities, Structured Products, Funds)</i>	<ul style="list-style-type: none"><li>. <b>New MDG ID 10 'Equities Norway' channel</b> <i>(compressed / shaped)</i></li><li>. Structured Products: via existing MDG ID 4 channel</li><li>. Funds: via existing MDG ID 1 channel</li></ul>
<b>Fixed Income</b>	<ul style="list-style-type: none"><li>. Regulated market: via MDG ID 2 channel</li><li>. <b>New MDG ID 12 'Fixed Income Nordic ABM'</b> <i>(compressed / shaped)</i></li></ul>
<b>Derivatives</b>	<ul style="list-style-type: none"><li>. Index Derivatives: via MDG ID 25 'Index Derivatives Other'</li><li>. Equity Derivatives: via MDG ID 22 'Equity Derivatives Other'</li></ul>
<b>Indices</b>	<ul style="list-style-type: none"><li>. Oslo Indices via MDG ID 13 'Euronext Indices' channel</li></ul>

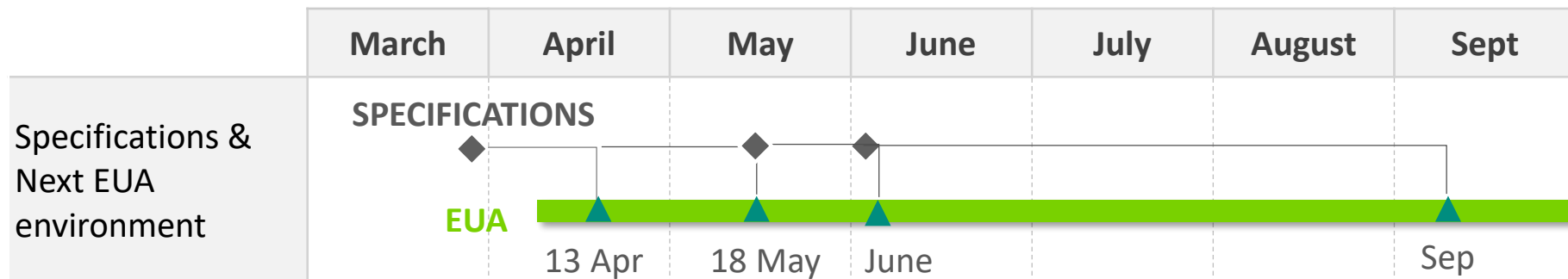
## 3. 3 CONNECTIVITY TO EUA

- **New members and ISVs should request Logical Accesses for EUA via the Connect portal**
  1. Only MCAs can access the Connect portal
  2. Apply to members connected directly or indirectly via ASPs
  3. Possibility to request specific LP / MM Logical Accesses if needed

*New ISVs are reminded that they must sign the ISV agreement*

- For Euronext existing members willing to become members of the Oslo Cash and / or Derivatives markets:
  - Possibility to connect via their existing Logical Accesses
  - LCH Front to Back configuration in place

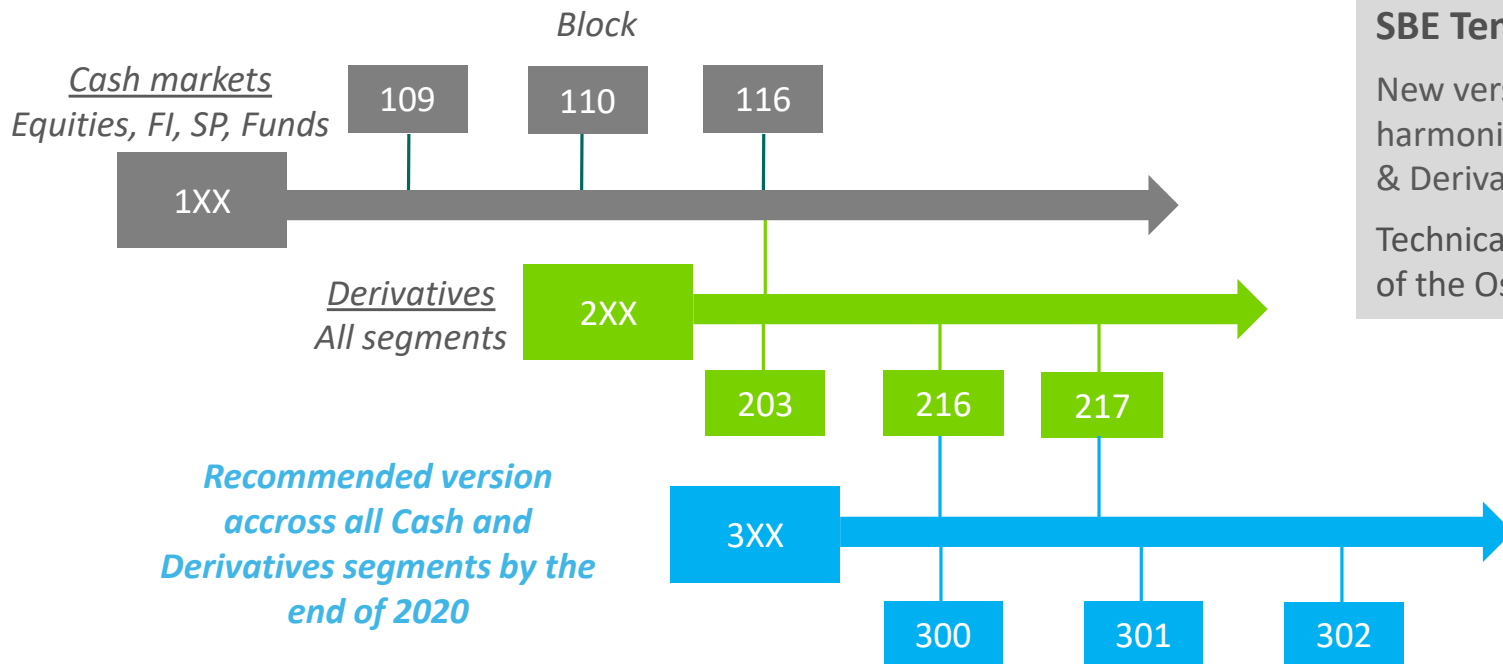
## 3. 4 DEVELOPMENT



	Cash markets	Derivatives	OBOE (Saturn)	Fixed Income
SPECS	 New optional field for Equities in SBE 302			Beg. June
EUA	Full EUA: 18 May SBE 302: Sept.	 Physical delivery SFs added in June	Lot 1: available Lot 2: 8 July FI: September	September

# 3. 5 SBE TEMPLATE VERSION 300

## Introduction



**SBE Template v. 300**  
New version for the harmonization of the Cash & Derivatives markets  
Technically deployed ahead of the Oslo migration



## 3. 5 SBE TEMPLATE VERSION 300

### Migration and compatibility

	FND	SP	EQ	FI	INDEX	CMO, IDD, EQD
	OEG / MDG				MDG	OEG / MDG
<i>EUA</i>	1 Apr	22 Apr	29 Apr	29 Apr	Q2	27 May
<i>Earliest supported version</i>	102	102	102	102	109	203
<i>PROD</i>	25 May	1 June	15 June	15 June	Q3	29 June
<i>Minimum version for Oslo Migration</i>	300	300	300*	302	300*	217*

*Customers willing to take advantage of new field will need to use v. 302*

*For customers supporting ISE Bond & Fund, minimal version will be v. 301*

*Customers are strongly encouraged to migrate to v. 300*

SBE Template 300 currently being deployed across Cash & Derivatives markets

Members are reminded to support multiple versions of SBE template across segments and to implement backward and forward compatibility following Euronext rules.

We strongly encourage customers to perform non regression testing for this new upgrade ahead of the Oslo migration.

## 3. 6 CONFORMANCE TESTS

	Provider	Member in-house	Member using provider
1 Functional Conformance	✔ Mandatory	✔ Mandatory	✔ <b>Market Makers: Mandatory</b> (Highly recommended for all)
2 High Availability (HA)	✔ Mandatory	✔ Mandatory	Highly recommended
3 Throttling	Highly recommended	Highly recommended	Highly recommended
4 Front to Back conformance with Clearing partner	N/A	✔ Mandatory	✔ Mandatory

## 3. 6. 1. FOCUS ON FUNCTIONAL CONFORMANCE

	Provider	Member in-house	Member using provider
1 Functional Conformance	✔ Mandatory	✔ Mandatory	✔ Market Makers: Mandatory (Highly recommended for all)
2 High Availability (HA)	<b>Approach</b> <ul style="list-style-type: none"> <li>Mandatory for Cash, Derivatives &amp; Saturn for new members and software vendors not yet conformed on Optiq (OEG and MDG)</li> <li>Light conformance for Trading members and Software providers already certified on Optiq (for MDG, checklist web form to be completed)</li> <li>Book timeslot on Connect</li> <li>Perform test in Next EUA with an Optiq Desk analyst</li> </ul>		
3 Throttling	<b>Timing</b> <ul style="list-style-type: none"> <li><b>Cash:</b> To be completed for all member codes and all solutions before the 1<sup>st</sup> Cash Dress Rehearsal</li> <li><b>Derivatives and Fixed Income:</b> To be completed for all member codes and all solutions before the 1<sup>st</sup> Derivatives / Fixed Income Dress Rehearsal</li> </ul>		
4 Front to Back conformance with Clearing partner			

## 3. 6. 2. FOCUS ON HIGH AVAILABILITY (HA)

	Provider	Member in-house	Member using provider
1 Functional Conformance	✔ Mandatory	✔ Mandatory	Highly recommended
2 High Availability (HA)	<b>Approach</b> <ul style="list-style-type: none"><li>• Mandatory for Cash, Derivatives &amp; Saturn for new members and software vendors not yet conformed on Optiq</li><li>• Test HA within allocated time slots provided by Euronext</li><li>• Provide test results in webform on Connect</li></ul>		
3 Throttling			
4 Front to Back conformance with Clearing partner	<b>Timing</b> <ul style="list-style-type: none"><li>• <b>Cash:</b> To be completed for all member codes and all solutions before the 1<sup>st</sup> Cash Dress Rehearsal</li><li>• <b>Derivatives and Fixed Income:</b> To be completed for all member codes and all solutions before the 1<sup>st</sup> Derivatives / Fixed Income Dress Rehearsal</li></ul>		

### 3. 6. 3. FOCUS ON THROTTLING

	Provider	Member in-house	Member using provider
1 Functional Conformance			Highly recommended
2 High Availability (HA)			
3 Throttling			
4 Front to Back conformance with Clearing partner			
			<b>Approach</b>
			<ul style="list-style-type: none"><li>Highly recommended especially for members and software vendors not yet conformed on Optiq</li><li>Test HA within allocated time slots provided by Euronext</li><li>Provide test results in webform on Connect</li></ul>
			<b>Timing</b>
			<ul style="list-style-type: none"><li><b>Cash:</b> To be completed before the 1<sup>st</sup> Cash Dress Rehearsal</li><li><b>Derivatives and Fixed Income:</b> To be completed before the 1<sup>st</sup> Derivatives / Fixed Income Dress Rehearsal</li></ul>

### 3. 6. 4. FOCUS ON FRONT TO BACK TEST

	Provider	Member in-house	Member using provider
1 Functional Conformance	N/A	✔ Mandatory	✔ Mandatory
2 High Availability (HA)	<p><b>Approach</b></p> <ul style="list-style-type: none"> <li>Mandatory for both Cash and Derivatives markets</li> <li>Aimed at confirming that the mapping of fields and the associated configured values from Order Entry to posting in clearing accounts is correctly populated by the clients' trading facing systems, clearing members and back-offices</li> <li>Dedicated scripts will be published for Cash and Derivatives markets</li> </ul>		
3 Throttling			
4 Front to Back conformance with Clearing partner	<p><b>Timing</b></p> <ul style="list-style-type: none"> <li><b>From Mid-July</b></li> <li><b>Cash:</b> To be completed before the 1<sup>st</sup> Cash Dress Rehearsal</li> <li><b>Derivatives and Fixed Income:</b> To be completed before the 1<sup>st</sup> Derivatives / Fixed Income Dress Rehearsal</li> </ul>		

## 3. 7 CONNECTIVITY TO PRODUCTION

- **New members and ISVs should request Logical Accesses for EUA via the Connect portal**
  1. Only MCAs can access the Connect portal
  2. Apply to members connected directly or indirectly via ASPs
  3. Possibility to request specific LP / MM Logical Accesses if needed

***Members are required to order their Logical Accesses a week before the Dress Rehearsal in which they want to participate (Cash and / or Derivatives)***

- Euronext existing members willing to become members of the Oslo Cash and / or Derivatives markets will be able to use their existing Logical Accesses

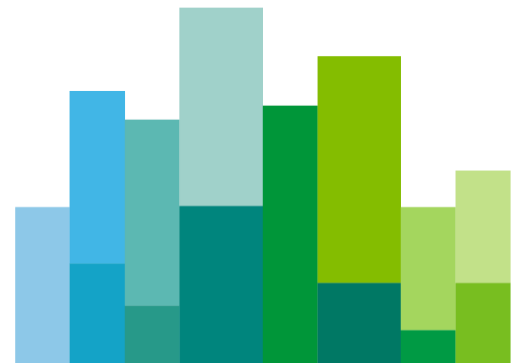
*Note that there will be no changes in partitions*

## 3. 8 FOCUS ON DRESS REHEARSALS

- Two Dress Rehearsals for the Cash migration: **10 October and 31 October**
  - Two Dress Rehearsals for the Derivatives / Fixed Income migration: **14 November / 21 November**
    - **Participation** in at least one Dress Rehearsal is **mandatory** for all Trading Members
- **Customers will be authorised** to take part in a Dress Rehearsal **only if they have:**
    - **Passed their functional conformance test**
    - **Ordered Logical Access sessions for Production**
    - **Tested their connectivity** to Production



## 4. Q&A



# ASK YOUR QUESTIONS

**Torbjørn Vik**

*Cash & Derivatives*

**Christian Ringstad**

*OB Secondary Market*

**Frank Boekhoff**

*EMS – Market Access*

**Nicole Agopian**

*Head of Technology  
Partnership*

**Lene Refvik**

*Market Data*



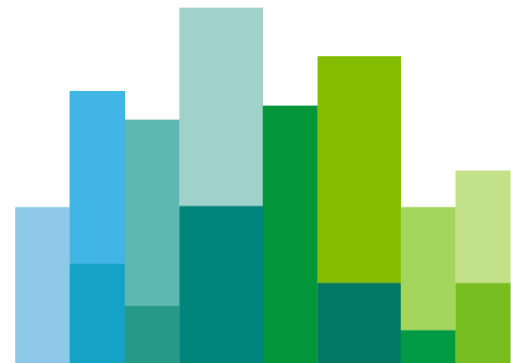
*If there is not enough time to answer your questions, we will get back to you following the presentation. Thank you.*



# APPENDIX



- Oslo Børs - Migration key dates



# OSLO BØRS - MIGRATION KEY DATES

*NB: "Cash Equities" includes ETFs and Structured Products*

Date	Market	Envir.	Milestone	Action
16 March	Cash Equities & Derivatives	EUA & Prod.	<b>Migration guidelines and technical documentation available: OEG specifications, MDG files specifications, SBE 207 and 300 templates specifications, connectivity specifications</b>	
18 March	Cash Equities	EUA	<b>Cash referential available</b>	OEG test can start
15 April	Derivatives	EUA	<b>Derivatives referential and market data feed available</b>	OEG test can start
14 May	Cash Equities & Fixed Income	EUA	<b>Cash market data channels ready</b>	MDG test can start, heartbeats and data available on Oslo dedicated channels
14 May	Cash Equities & Derivatives	EUA	<b>SBE 300 implemented</b>	Conformance test can start for cash equities and derivatives
17 May	Cash Equities & Fixed Income	EUA & Prod.	<b>Saturn specifications available</b>	
29 May	Fixed Income	EUA & Prod	<b>Migration guidelines and technical documentation updates for Fixed Income available</b>	
1 June	Cash Equities	EUA	<b>Cash Equities OBOE features available on Saturn 1/2</b>	Saturn test can start
29 June	Fixed Income	EUA & Prod	<b>SBE 302 (TBC) template specifications publication</b>	

# OSLO BØRS - MIGRATION KEY DATES

*NB: "Cash Equities" includes ETFs and Structured Products*

Date	Market	Envir.	Milestone	Action
30 June (tbd)	Fixed Income	EUA	<b>Fixed Income referential available</b>	OEG test can start
08 July	Cash Equities	EUA	<b>Cash Equities OBOE features available on Saturn 2/2</b>	
15 July (tbd)	Cash Equities & Derivatives	EUA	<b>Clearing set-up ready</b>	End-to-end test can start
9 Sept.	Fixed Income	EUA	<b>Fixed Income OBOE, duplicate trades and named orders features available on Saturn. SBE 302 (TBC) implemented</b>	Saturn test can start Conformance test can start for FI
30 Sept.	Fixed Income	EUA	<b>Specific deferred publication time feature implemented on Saturn for trade reporting</b>	Deferred publication reception can be confirmed
10 Oct.	Cash Equities	Prod	<b>Dress Rehearsal 1: Cash Eq. + Structured Prod. + ETFs</b>	Technical connectivity test
31 Oct.	Cash Equities	Prod	<b>Dress Rehearsal 2: Cash Eq. + Structured Prod. + ETFs</b>	Technical connectivity test
9 Nov.	Cash Equities	Prod	<b>Go Live: Cash Eq. + Structured Prod. + ETFs</b>	Effective migration
14 Nov.	Derivatives & Fixed Income	Prod	<b>Dress Rehearsal 3: Derivatives + Fixed Income</b>	Technical connectivity test
21 Nov.	Derivatives & Fixed Income	Prod	<b>Dress Rehearsal 4: Derivatives + Fixed Income</b>	Technical connectivity test
30 Nov.	Derivatives & Fixed Income	Prod	<b>Go Live: Derivatives + Fixed Income</b>	Effective migration

THANK YOU!





OSLO BØRS