

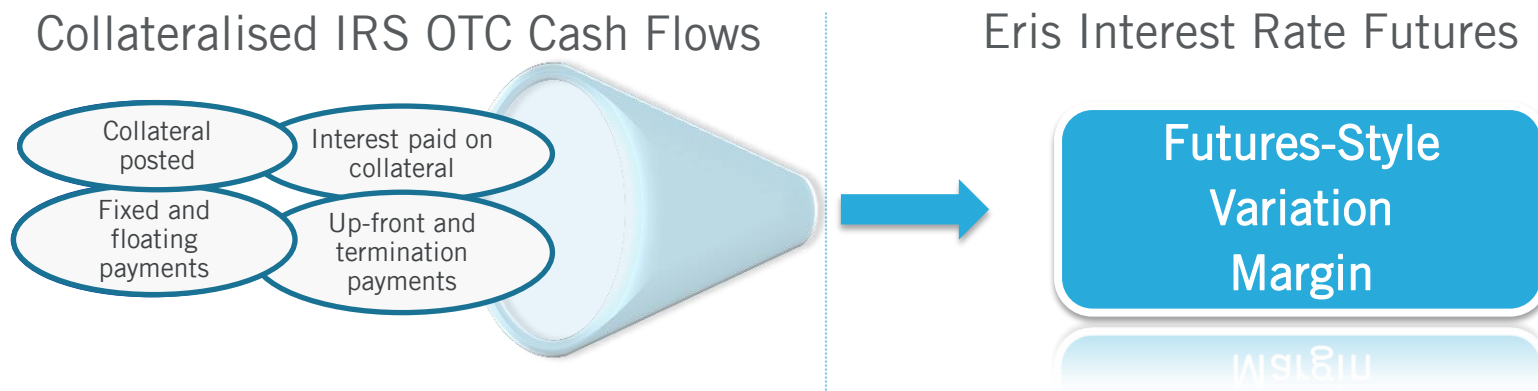


# ERIS INTEREST RATE FUTURES

AUGUST 2017

# INTRODUCING ERIS INTEREST RATE FUTURES

Eris Methodology™: Proprietary design replicates OTC Swap economics



- ERIS is the most successful swap future methodology (approximately 70% of global OI)
- The EUR and GBP contracts trade on ICE Futures Europe and are cleared through ICE Clear Europe
- Replicates all of the cash flows and economics of analogous OTC Swaps including Price Alignment Interest (PAI) into single VM cashflow
  - Apply existing models, tools and swap curves for analysis and valuation
- Capital, Margin and Operational Efficiencies of Exchange-Traded Derivatives
  - 2-day VaR versus 5-day or 7-day VaR
  - Leverage existing Exchange and Clearing connectivity infrastructure
  - Basis trade facility available
- Remain outstanding as futures until the Maturity Date (e.g. 5Y Standard will remain as a futures contract for 5 years)
- Cash settled at maturity with no risk of physical delivery

# ECONOMICS OF ERIS INTEREST RATE FUTURES

$$A + B - C + 100 = \text{Eris Futures Price}$$

**A**

Swap NPV

- Equivalent to NPV of an analogous OTC swap (OIS Discounted)
- Only element that changes continuously throughout trading day
- Eris Standards with fixed coupons trade in terms of 'A'
- 'A' is often referred to as the 'Clean Price'
- Daily settlement of A is based on ICE Futures Europe swaps curve

**B**

Historical Fixed and Floating Amounts

- Past fixed and floating amounts since contract inception
- Changes every 6 months, beginning 6 months after the Effective Date
- May be positive or negative
- Calculated and published prior to market open

**C**

Eris PAI™

- Synthetic interest on variation margin
- Accrues at Overnight rates for each currency
- Analogous to interest on collateral in a EUR / GBP 0 threshold CSA

**100**

Index Price

- Index price of EUR / GBP 100
- Reduces the likelihood of a negative Eris Futures Price

Eris  
Futures Price

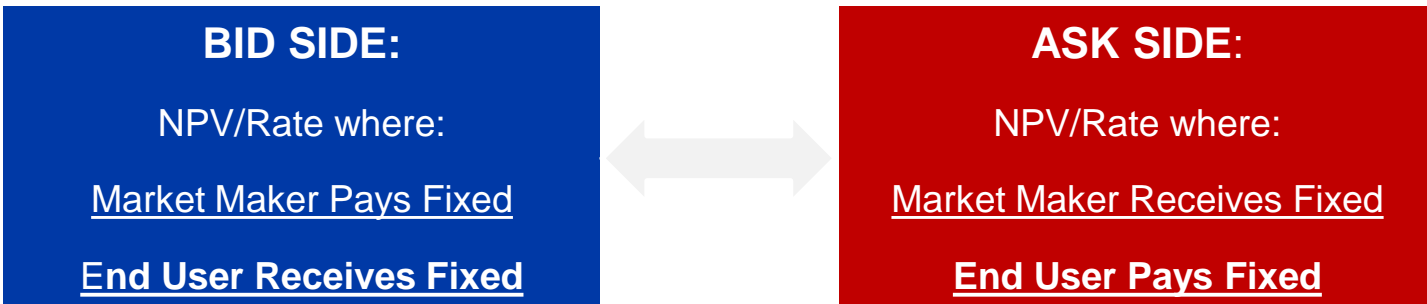
Settlement  
Value

- Eris Futures Price represents the 'All-in' settlement price
- Facilitates bookkeeping for existing futures systems
- Often referred to as the 'Dirty Price'
- No one trades using the Eris Futures Price

# KEY TRADER INFORMATION

## Key Points to Remember

- Contract Size = 100,000 notional
- **“BUY” = Pay Fixed**
- **“SELL” = Receive Fixed**
- All NPV quoted instruments (i.e. A) are from the Buyer’s perspective:
  - Positive NPV: Par Rate > Fixed Rate
  - Negative NPV: Par Rate < Fixed Rate
- Direction of “Premium” in OTC Equivalent Terms:
  - Positive NPV: Buyer/Fixed rate payer pays premium and Seller/Fixed rate receiver receives premium
  - Negative NPV: Buyer/Fixed rate payer receives premium and Seller/Fixed rate receiver pays premium



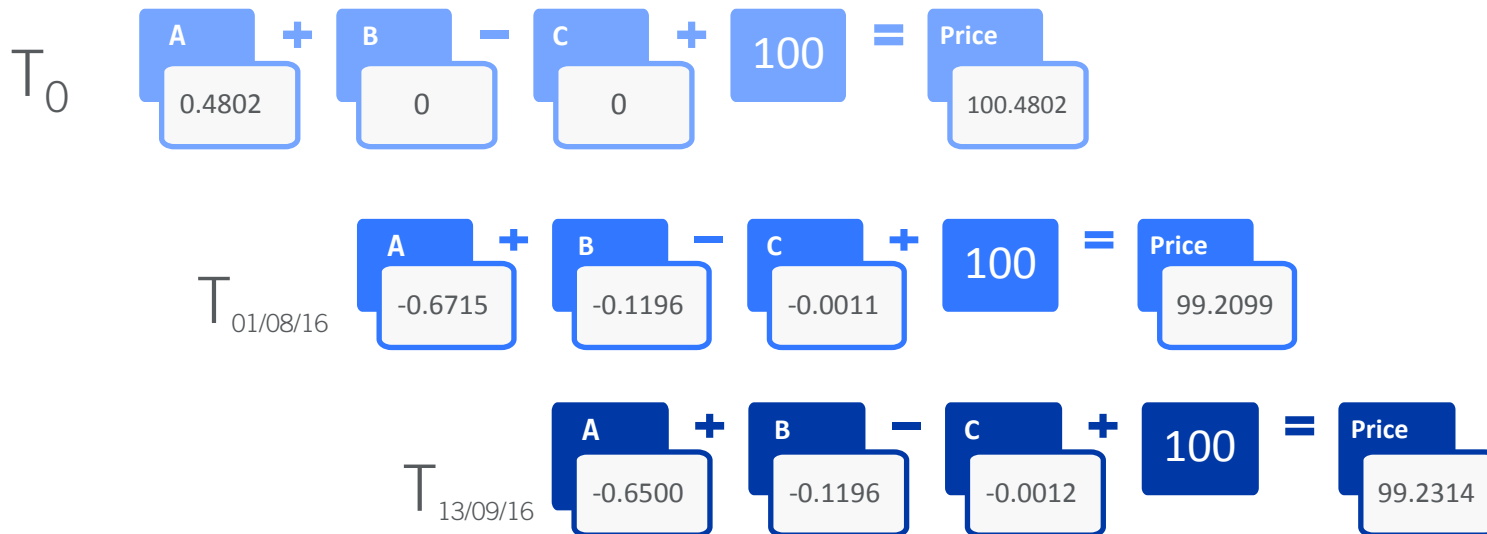
# ERIS INTEREST RATE FUTURE EXAMPLE

- The NPV is the quoted and traded price ( $A = NPV / 1,000$ )
- The B and C components are calculated by ICE Futures Europe and published daily<sup>1</sup>



## EXAMPLE:

Trade date, June 29<sup>th</sup> ( $T_0$ ), pricing a September 2015 2 year Eris £ future with a fixed coupon of 1.00%:



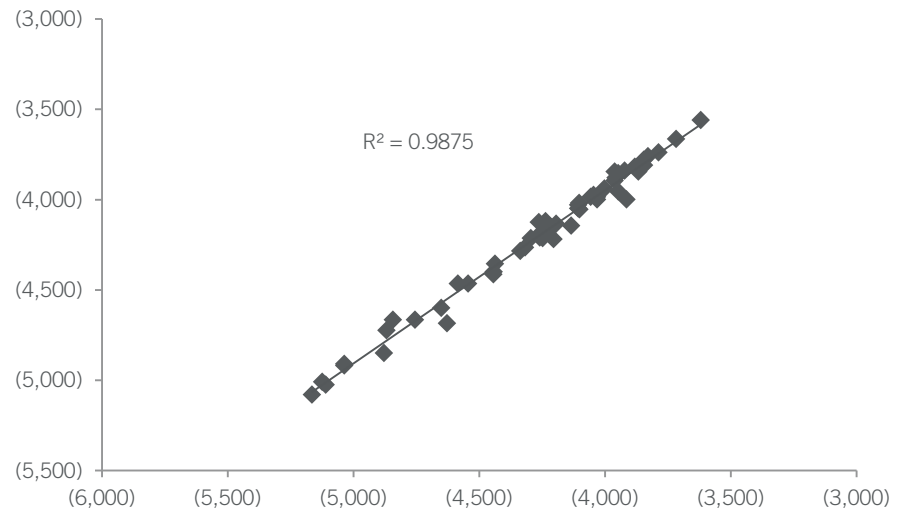
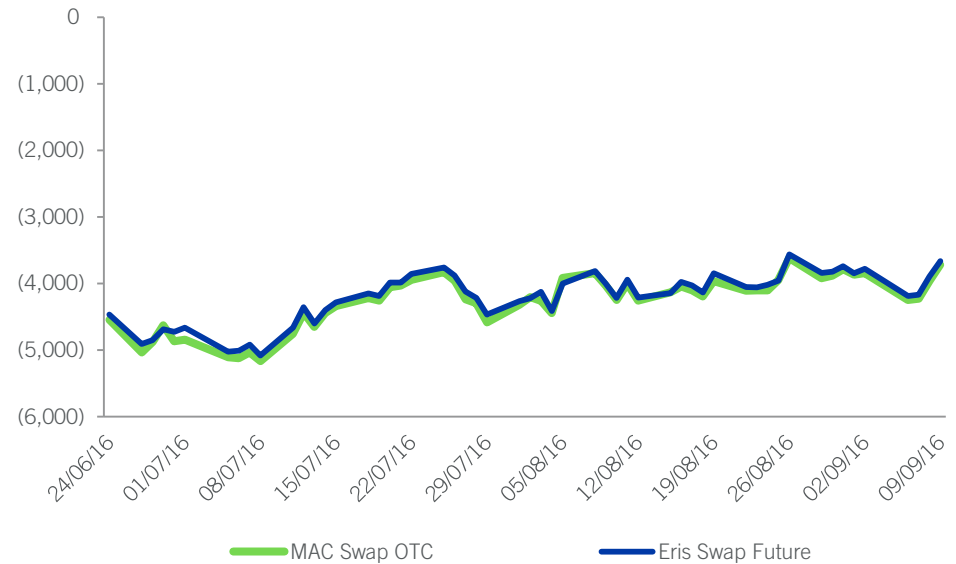
<sup>1</sup> The B & C values will be posted in the ICE Report Center as well as included in the FIX and iMPact API reference data: [www.theice.com/marketdata/reports](http://www.theice.com/marketdata/reports)

# ERIS vs OTC

Eris Rate Futures and analogous OTC Swaps are highly correlated.

The  $R^2$  between Eris Interest Future and the OTC traded MAC swap is **0.9875**

OTC MAC Swap vs. Eris Future NPV



# INITIAL MARGIN ESTIMATES

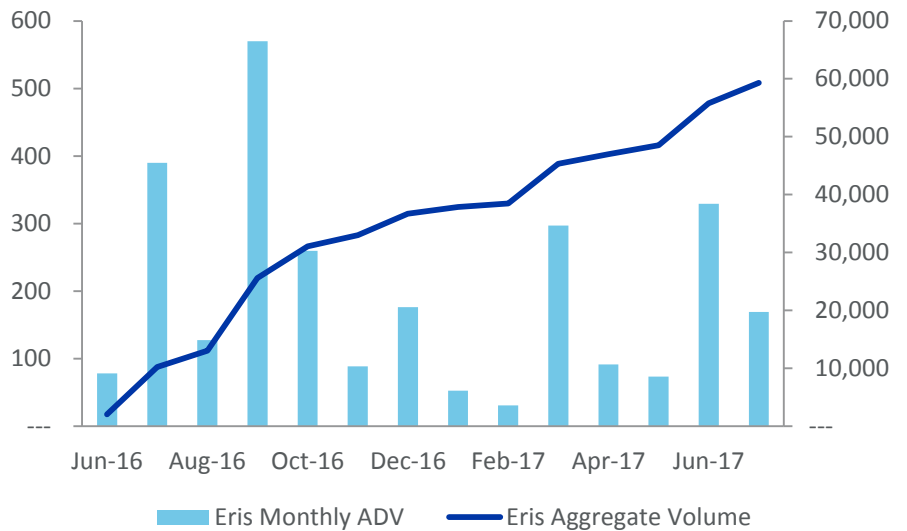
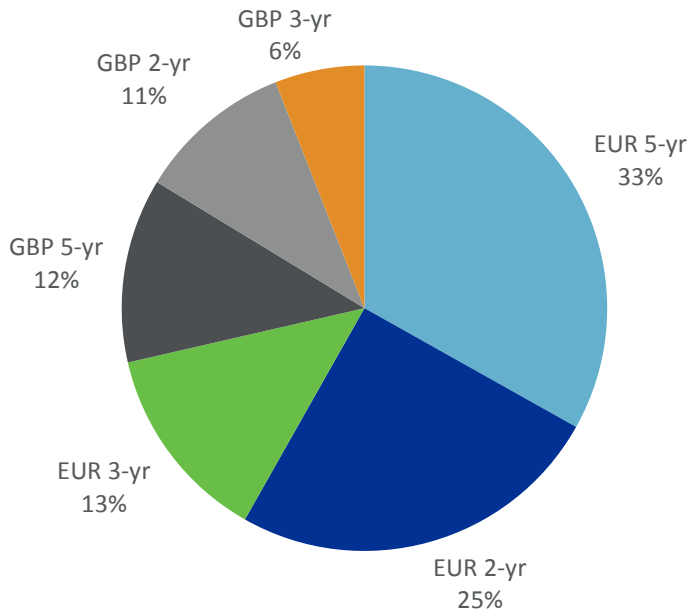
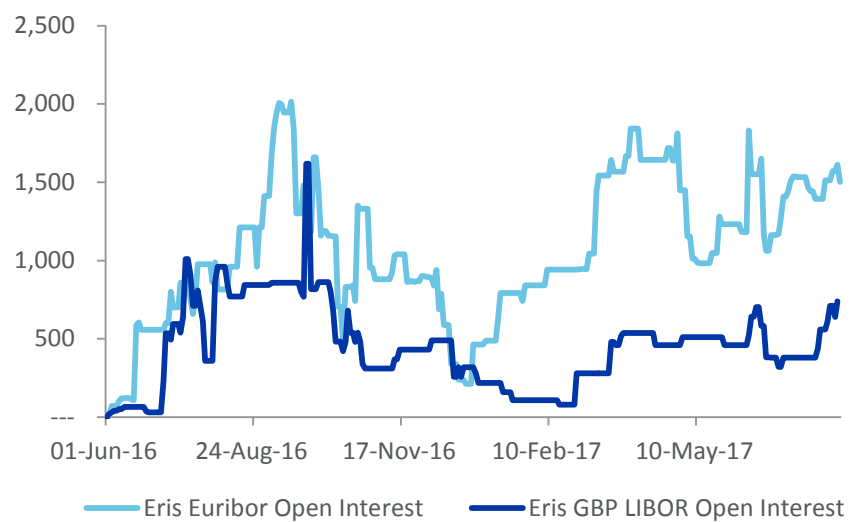
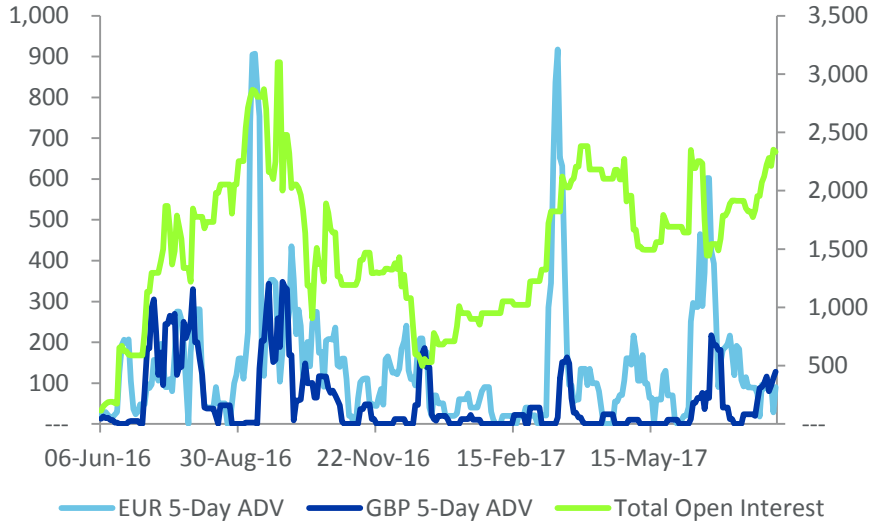
- **OTC Clearing Margin Saving:** 5 or 7 day VaR vs. 2 day VaR can deliver potential savings upwards of 40% on posted margins.
- In addition, offsets of more than 75% can be realised through margining with other ICE Futures Europe products. The below table shows examples of potential offsets:

Representative Portfolio (as at July 2017)	Total Initial Margin	Combined Initial Margin	Overall Offset*
EUR ERIS 2s10s Spread (-100 vs. 20)	€45,800	€24,300	47%
GBP ERIS 2s10s Spread (-100 vs. 20)	£70,291	£25,400	65%
5 year EUR Eris vs Euribor Future (-50 vs.100)	€65,000	€16,000	75%
5 year GBP Eris vs Sterling Future (-50 vs. 200)	£102,000	£35,500	65%
10 Year GBP Eris vs Long Gilt Future (50 vs.46)	200,400	£80,900	60%

\*Please note these figures should be treated as estimates and are subject to change.

# ERIS RATES TRADING PERFORMANCE

AS OF 31 JULY 2017

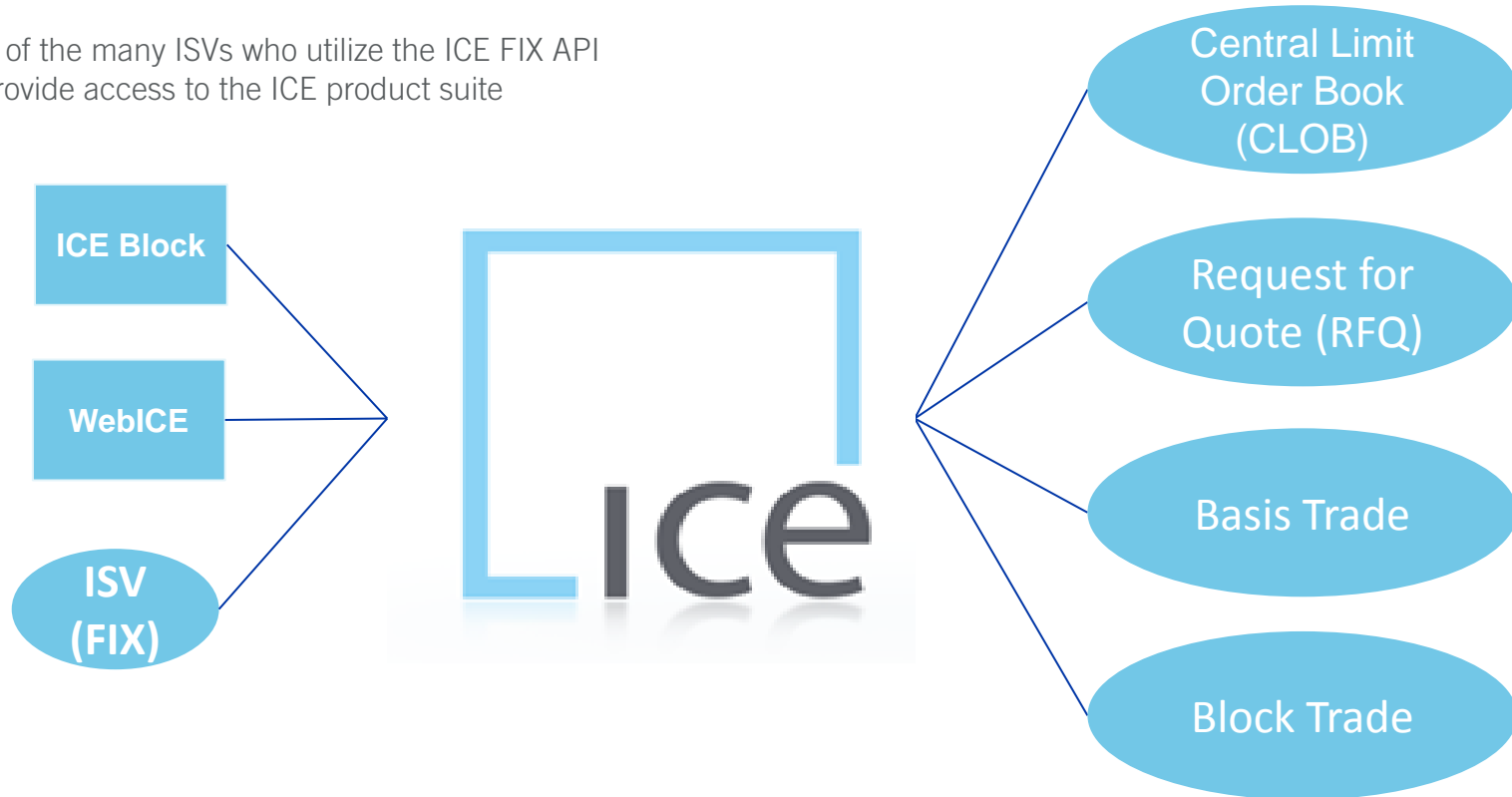


# CONTRACT SPECIFICATIONS

	<b>Euribor®</b>	<b>GBP LIBOR</b>
<b>Trading Hours</b>	1:00 AM to 9:00 PM Local London Time	7:30 AM to 6:00 PM Local London Time
<b>Underlying Tenor</b>	The duration of time from the Effective Date to the maturity of the contract 2, 3, 5, 7, 10, 30 Years	
<b>Contract Size</b>	€100,000	£100,000
<b>Fixed Rates</b>	Pre-determined rate set by IFEU, which will remain static throughout the life of the Contract. Determined at listing date. Only one rate will be available for each Effective Month	
<b>Floating Rate</b>	6 month EURIBOR announced by the European Money Markets Institute (EMMI)	6 month GBP LIBOR announced by ICE Benchmark Administration
<b>Daily Settlement</b>	Daily Settlement Price at time $t = 100 + A_t + B_t - C_t$ DSP quoted to 4 decimal places	
<b>Final Settlement</b>	Final Settlement Price = $100 + B_{final} - C_{final}$	
<b>Effective Date</b>	Third Wednesday of Effective Month	
<b>Maturity Date</b>	The final date to which fixed and floating amounts accrue. The last date of the contract	
<b>Last Trading Day</b>	The business day preceding the Maturity Date	
<b>Effective Months Available</b>	Front 2 Quarterly (March, June, September, December)	
<b>Matching Algorithm</b>	FIFO	
<b>Block Thresholds</b>	2-10 Years, 250 Contracts (€25,000,000) 30 years, 50 Contracts (€5,000,000)	2-10 Years, 250 Contracts (€25,000,000) 30 Years, 50 Contracts (€5,000,000)

# EXECUTION

- ICE Trading Platform / ICE Block;
- One of the many ISVs who utilize the ICE FIX API to provide access to the ICE product suite



## On-boarding process for WebICE or ISV

- A. Client contacts ICE User Administration ([iceuseradministration@theice.com](mailto:iceuseradministration@theice.com)) for trading credentials
- B. Clearing firm sets account credit limits

## On-boarding process for ICE Block

- A. Clearing Firm creates clearing Accounts for brokered / block transactions
- B. Clearing firm sets account credit limits for ICE Block

# NEXT STEPS FOR TRADING

## CONTACT THE FOLLOWING ENTITIES TO CONFIRM YOUR INTEREST IN TRADING ERIIS INTEREST RATE FUTURES

- ✓ CLEARER
- ✓ BROKER
- ✓ INDEPENDENT SERVICE VENDOR (ISV) / IN-HOUSE SOFTWARE DEVELOPER

## ENSURE YOU ARE PERMISSIONED TO ACCESS AND TRADE ERIIS INTEREST RATE FUTURES, WITH RELEVANT CLEARING LIMITS IN PLACE

- ✓ ERIIS INTEREST RATE FUTURES WILL HAVE A NEW MARKET ID: **131**
- ✓ LIAISE WITH YOUR ICE ADMINISTRATOR

## FOR MORE INFORMATION ON BECOMING A MARKET MAKER CONTACT THE INTEREST RATES TEAM

- ✓ [RATES@THEICE.COM](mailto:RATES@THEICE.COM)

## FOR MORE INFORMATION ON CONNECTIVITY CONTACT THE TECHNOLOGY PARTNERSHIPS TEAM

- ✓ [TECHNOLOGYPARTNERSHIPS@THEICE.COM](mailto:TECHNOLOGYPARTNERSHIPS@THEICE.COM)

## FOR A LIST OF APPROVED ISVS PLEASE VISIT

- ✓ [HTTPS://WWW.THEICE.COM/CONNECTIVITY/ISV](https://www.theice.com/connectivity/isv)

# MARKET DATA

All market data is available to existing ICE Futures Europe customers at no extra cost:

Eris Standard EUR Interest Rate Futures		
	IFEU / TT Code	Bloomberg
<b>2 Year</b>	0.00% RBE	AREA Comdty
<b>3 Year</b>	0.00% RCE	AROA Comdty
<b>5 Year</b>	0.25% REF	ARWA Comdty
<b>7 Year</b>	0.50% RGG	ARRA Comdty
<b>10 Year</b>	1.00% RJ1	AKRA Comdty
<b>30 Year</b>	1.25% RNJ	OBPA Comdty

Eris Standard GBP Interest Rate Futures		
	IFEU / TT Code	Bloomberg
<b>2 Year</b>	0.75% PBH	IDLA Comdty
<b>3 Year</b>	1.00% PCI	IJBA Comdty
<b>5 Year</b>	1.00% PEI	OHAA Comdty
<b>7 Year</b>	1.25% PGJ	OHBA Comdty
<b>10 Year</b>	1.50% PJK	OHPA Comdty
<b>30 Year</b>	1.50% PNK	OHYA Comdty

Central order book with streaming prices and sizes available on Bloomberg at: **ICE <GO> 9 <GO>**

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Eris products listed on ICE exchanges are based on the Eris Methodology™, Eris' product design for constructing capital-efficient futures that incorporates intellectual property, expertise and patent-pending innovations.

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