



LONDON METAL EXCHANGE



Online Price Discovery System

What will the system do?

The Online Price Discovery System will aim to provide reliable weekly prices to traders, consumers and producers of minor metals.

Market participants will be able to submit indications of where they believe the market bids and offers have on a number of minor metals.

OPDS procedures will be automated to the maximum extent possible and adhere to clearly defined terms to ensure reliability and consistency of pricing. A proprietary algorithm will cleanse data to create a final bid and offer price indication once a week.

“It is in no way intended to serve as a physical or futures trading platform. It will not require regulation”

Pricing contributors will receive data including weekly bids, offers and spreads. Non-contributors will be able to buy restricted data through authorised vendors.

OPDS will be used solely to survey market sentiment. It is in no way intended to serve as a physical or futures trading platform. It will not require regulation.

The MMTA will share revenue generated by OPDS. The LME will fund the development of the system and operate it.

“The principle goal of OPDS is to provide reliable prices to the minor metal industry”

Which prices will be available on the system?

The MMTA will determine which prices will be available on OPDS in consultation with the membership. We envisage an initial series of metals, focusing on larger volume markets.

What are the benefits the system will provide?

The principle goal of OPDS is to provide reliable prices to the minor metal industry.

By automating as much as possible the process of price gathering and analysis we hope for our prices to be less erratic and more consistent than those currently used in the market. We anticipate greater participation from industry that at present, which should also boost the quality of data.

Additionally, the MMTA will receive revenue from the system and anticipates attracting new members as the benefits of the system become understood.

Once again, this is not a trading platform and will not require regulation.

Who will be able to contribute prices?

Prices can be contributed by anyone in the physical trade of the minor metals they wish to contribute to.

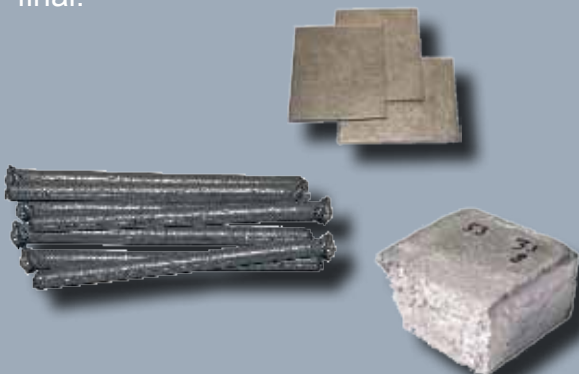
Non-members must produce audited accounts or be proposed and seconded by MMTA/ LME members before contributions can begin.

“ Prices can be contributed by anyone in the physical minor metals business ”

Contributors must sign up to make bids or offers or both on each metal individually for 6 months. OPDS will create a list of contributors for each metal and any new contributors. Existing contributors to each specific metal will have the right to object via OPDS to any new contributor's presence.

We will have a quotations committee (see below) which will weigh any objection to participation. It will have the right to ask for further information from either the complainant or contributor under question.

Evidence required in support of a contributor could include sight of documents showing relevant transactions or electronic evidence of bids and offers. The Quotations Committee's decision is final.



How will users contribute prices?

Contributors must input all prices (bids, offers, or a bid-offer spread) electronically via the internet, based on MMTA standard specification in-warehouse Rotterdam Customs and Duties Unpaid.

Prices must be posted every Wednesday between 01.00 and 15.00 London time - contributors will be able to overwrite quotes until 15.00.

Provisional prices will be established by 15.15. The Quotations Committee will then review prices, publishes final prices at 15.55.

All quotes will be anonymous to other users.

How will prices be disseminated?

OPDS will publish the final bid and offers for each metal at 15.55 London time every Wednesday.

Contributors will receive additional data, namely the total number of bids and offers submitted and the highest valid bid (or offer) and lowest bid (or offer).

Prices will be displayed via a secure website, accessible via login code only.

Limited data will also be disseminated to paying non-members.

“ Price will be displayed via a secure website, accessible via login code only ”

How will you ensure accurate prices?

OPDS will use an algorithm to cleanse the data.

1. Contributors will submit a bid (or offer, or both).
2. OPDS will establish an average price and calculate with standard deviation.
3. If the standard deviation from the mean is small i.e. less than 3%, then the mean price is used with no need for any other calculation.
4. If standard deviation is above 3% of the mean, then OPDS will establish a median price.
5. All prices 10% above and below the median value are excluded.
6. OPDS will then take a mean taken of the numbers remaining in the sample.
7. This mean is the final bid.

In the first six months of operation the algorithm will not apply to metals with five or less contributors (the quorum), but in any week that a quorum does apply, then the algorithm will be used.

If the bid is higher than the offer, OPDS will establish a mid-point, then establish a new bid and offer 2% above and below the midpoint.

After the initial period, if there is no quorum, the price cannot be updated.

In case of complaints or abuse notified by users and or registered by OPDS itself, the Quotations Committee will have authority to investigate.

Contributors must agree to supply a bid or an offer on 70% of contributing days in a six month period. If they fail to do so, OPDS will notify the Quotations Committee who will have the right to suspend the contributor.

OPDS will alert the Quotations Committee to contributors supplying consistent outliers (five offences in every ten submissions).

When a contributor submits such outliers OPDS will notify the contributor and the Quotations Committee that the contributor is on a watch list.

“OPDS will use an algorithm to cleanse the data”

If a contributor continues to post outliers (3 in next 5 quotes) they will receive notification of suspension for three months.

Suspended contributors will have the right to appeal to the Quotations Committee.

The Quotations Committee can investigate whether there is a case for appeal.

If there is a case, it can request evidence of business done in the relevant period or evidence of electronically communicated bids and offers to support the appeal.

It will either rule in favour of the complainant or uphold suspension.

If the Quotations Committee rules in favour of the complainant, it has option to call in contracts from other contributors.

example one

What does that mean in practice?

STEP 1

By 3pm OPDS receives the following:

Ferro-tungsten quotes:

Bids

- USD 27.00 / kg W
- USD 25.95 / kg W
- USD 26.90 / kg W

Offers

- USD 27.80 / kg W
- USD 27.00 / kg W
- USD 27.50 / kg W
- USD 28.75 / kg W
- USD 26.85 / kg W

Bid-offers

- USD 26.50 - 27.50 / kg W
- USD 26.25 - 27.00 / kg W
- USD 26.00 - 28.00 / kg W
- USD 27.50 - 29.00 / kg W
- USD 27.00 - 28.50 / kg W

STEP 2

OPDS orders the data and establishes 10 offers and 8 bids

STEP 3

OPDS takes the mean of both data sets and calculates the standard deviation.

Bids:

Mean = \$26.64

Standard deviation = 2.07%

Offers:

Mean = \$27.79

Standard deviation = 2.74%

STEP 4

As the data are within 3% standard deviation no further calculation is required. OPDS publishes a provisional price (mean in Step 3) at 15.15. It publishes a final price at 15.55.

example two

What if an outlying bid is submitted?

STEP 1

An additional Bid of \$30 is submitted.

Bids:

- USD 27.00 / kg W
- USD 25.95 / kg W
- USD 26.90 / kg W
- **USD 30.00 / kg W**

Offers

- USD 27.80 / kg W
- USD 27.00 / kg W
- USD 27.50 / kg W
- USD 28.75 / kg W
- USD 26.85 / kg W

Bid-offers

- USD 26.50 - 27.50 / kg W
- USD 26.25 - 27.00 / kg W
- USD 26.00 - 28.00 / kg W
- USD 27.50 - 29.00 / kg W
- USD 27.00 - 28.50 / kg W

STEP 2

OPDS orders the data and establishes the mean and calculates the standard deviation.

Bids:

Mean = \$27.01

Standard deviation = 4.57%

STEP 3

Since the standard deviation is +3% OPDS will need to establish the median.

Median = \$26.90

STEP 4

OPDS removes all prices 10% above and below the median value.

This will eliminate the bid at \$30 which is 10% from the mean and deemed to be an outlier.

STEP 5

OPDS establishes the mean of the remaining data.

Mean = \$26.64 (this is the same as Example 1, since the outlier has been removed)

What are the functions of the Quotations Committee?

The Quotations Committee is the ultimate arbiter of all prices published by OPDS.

It will be staffed by one representative from the MMTA Executive office and one representative from the LME Executive with equal authority.

OPDS will electronically monitor all bids and offers and assess their suitability for use as the basis for the final quotes using a proprietary algorithm.

The Quotations Committee will be alerted by OPDS when:

1. mean bids are higher than mean offers
2. objections to quotes or contributors are raised
3. a quorum has not been met
4. a contributor has posted too many outlying numbers
5. objections to contributors are raised

The findings of the Quotations Committee are final.

How can contributors object to a price?

Contributors can object to prices through OPDS.

The initial complaint must be raised through OPDS which will then alert the Quotations Committee.

Any complaint must be relevant to the data set to which the complainant contributed: i.e., if a contributor submitted a bid on antimony, it can only raise a complaint on a bid on antimony, not an offer on cadmium.

If a complainant's original bid (or offer) is an outlying number, the complaint is automatically dismissed.

If the complainant still wishes to raise a complaint, they must submit in writing including any evidence.

Evidence would include contracts or electronic bids and offers.

If evidence supports the claims, the Quotations Committee has the option to ask other contributors to submit evidence in support of their quotes. Failure to supply evidence could result in suspension.

If any investigation reveals widespread irregularities, the Quotations Committee has the option to maintain the price at the previous level or suspend it completely.

What will it cost the MMTA and its members?

The cost of building OPDS will be borne entirely by the LME.

MMTA members will have access to the site for free in the first year of operation.

After that, it is anticipated that members will pay £5 a week to receive data (£10 if not contributing). A proportion of this revenue will be rebated to the MMTA; the remainder will primarily go to the LME to meet development and running costs.

Contact Us

Member involvement in the development of OPDS is vital and we look forward to receiving comments.

If you have any questions or remarks please contact the MMTA or LME.

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