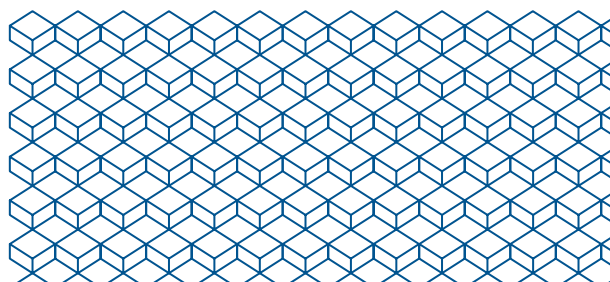
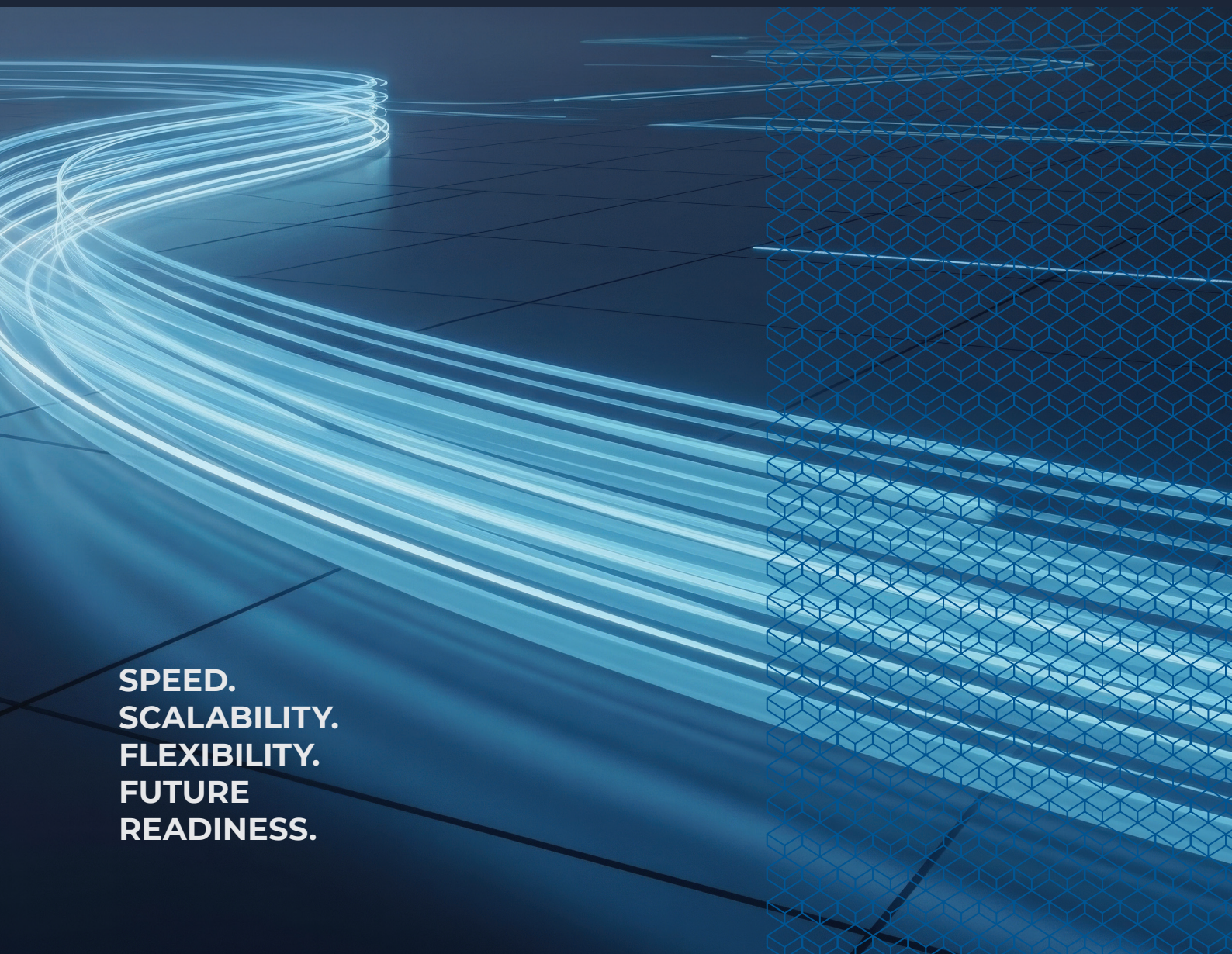


WATS^{GPW}



THE WARSAW STOCK EXCHANGE'S NEW TRADING SYSTEM

**SPEED.
SCALABILITY.
FLEXIBILITY.
FUTURE
READINESS.**



THE TECHNOLOGY BEHIND EVERY TRADE

Behind every buy or sell order is an advanced system that receives, prioritises and matches orders in accordance with market rules. It is the technological heart of the exchange, invisible to most investors, yet essential to the smooth and efficient operation of every trading session.

THE WARSAW STOCK EXCHANGE'S NEW TRADING PLATFORM

GPW WATS, or the Warsaw Automated Trading System, is the first fully proprietary trading platform in the history of the Warsaw Stock Exchange. The system has been designed to meet the needs of the Polish capital market and support its continued development.

The project encompasses not only a new trading engine, but also a comprehensive modernisation of GPW's technology infrastructure, including data processing systems, information distribution and trading session monitoring.

A PROJECT FOR THE ENTIRE MARKET

Preparing for the implementation of GPW WATS required close cooperation across the entire capital market ecosystem, including brokerage firms, information vendors, technology providers, market infrastructure institutions, the supervisory authority and GPW Group companies.

TECHNOLOGY DESIGNED FOR THE FUTURE

GPW WATS has been designed as a fast, modular and scalable system, ready for further development. Its modern technology architecture provides a foundation for the efficient development of new functionalities, services and instruments in response to the evolving needs of the market.

In this brochure, we explain how GPW WATS works, what changes it will introduce and what the new system means for investors.

WHAT DOES GPW WATS MEAN FOR INVESTORS?

At first glance, little will change. Investors will continue to place orders through their brokerage firms. What will change, however, is the technology behind order handling, as well as certain rules governing trading sessions, auctions and order execution.

GPW WATS will replace the UTP system, which has been in use since 2013, and become the new technological heart of the Warsaw Stock Exchange. The new platform has been designed to support transparent, orderly and efficient trading, including during periods of increased market activity.



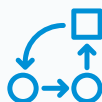
NEW AUCTION PROCEDURE

Investors will have access to key information enabling them to monitor the price determination process during opening, closing and volatility auctions.



MORE PRECISE ORDER HANDLING RULES

The execution of certain order types will change. The new rules will clearly define when an order may be executed, cancelled or rejected by the system.



MECHANISMS SUPPORTING ORDERLY TRADING

Random Opening, price limit controls and enhanced volatility auction mechanisms are designed to support orderly trading, including during periods of sharp price movements.

GPW WATS introduces new, higher limits on the maximum value of a single order. Any order exceeding the applicable limit will be automatically rejected by the system.

Cash market:

- PLN 50 million: WIG20 shares, bonds and instruments on their first day of trading;
- PLN 30 million: mWIG40 shares;
- PLN 10 million: other shares, investment certificates, ETFs, ETNs and ETCs.

Derivatives market:

- PLN 75 million: index futures, single-stock futures, currency futures and options.



TECHNOLOGY DESIGNED FOR GREATER SCALE

High performance and low order-processing latency will enable the system to handle increasing levels of activity among market participants.



A FOUNDATION FOR GPW'S FURTHER DEVELOPMENT

The modular and scalable architecture will enable the continued development of functionalities, services and instruments available on the Warsaw Stock Exchange.

Investors do not need to understand the technology behind GPW WATS. They should, however, understand how the new system will change market rules and the way their orders are handled.

FROM ORDER TO TRADE

HOW DOES GPW WATS WORK IN PRACTICE?

When buying or selling a financial instrument, an investor places an order through their brokerage firm. The order is then routed to the Exchange's trading system. This is where buy and sell orders are matched and, once the relevant conditions are met, a trade is executed.

GPW WATS becomes the technological heart of this process.

THE ORDER JOURNEY

YOU PLACE AN ORDER

You select the financial instrument, specify the number of securities and set the remaining order parameters. You do this in the same way as before, using your investment account and the tools provided by your brokerage firm.

BROKERAGE FIRM TRANSMITS THE ORDER

Once the required checks have been completed, the order is transmitted to the GPW WATS trading system.

A TRADE IS EXECUTED

If the order can be matched with a corresponding order on the opposite side of the market, the system executes the trade and disseminates the relevant information to market participants.

GPW WATS PROCESSES THE ORDER

The system receives the order and processes it in accordance with the rules applicable to the relevant market.

You make the investment decision. Gpw wats supports its efficient execution on the warsaw stock exchange.

ORDER UNDER CONTROL

With GPW WATS, investors will continue to have access to the basic order types already used on the Warsaw Stock Exchange. However, the new system will introduce clearer rules for their handling, particularly for orders without a specified price limit.

The order type determines how an order is executed. Its validity determines how long the order remains active and under what conditions.

LIMIT	The investor specifies the maximum purchase price or the minimum selling price.
MO (MARKET ORDER)	An order to buy or sell without a specified price. Market Order can be executed at the best opposite price/prices.
MTL (MARKET-TO-LIMIT ORDER)	An order without a price to be executed at the best opposite limit price.
STOP	An order that is activated once a specified price condition is met.
ICEBERG	An order with a disclosed quantity condition. Only a specified portion of its total volume is visible in the order book.

HOW LONG CAN AN ORDER REMAIN VALID?

The order validity type determines how long an order remains active or what happens to any unexecuted portion of the order.

Valid until a specified point in time:

- D: valid for the current trading day
- GTD: valid until a specified date
- GTC: valid until further notice
- GTT: valid until a specified time

Valid for a specific trading phase:

- VFA: valid for fixing
- VFC: valid for the closing auction

Immediate execution conditions:

- IOC: Immediate or Cancel
- FOK: FILL OR KILL (FOK)

Not every validity type is available for every order type or during every phase of the trading session. Before placing an order, investors should check its type, validity and execution rules provided by their brokerage firm.

A particularly important change concerns MO (Market) and MTL (Market-to-Limit) orders. Under GPW WATS, these orders will be executed according to new, clearly defined rules. We explain these rules on the following page.

MO AND MTL ORDERS: NEW EXECUTION RULES

MO (Market Order) and MTL (Market-to-Limit) orders are designed to enable the rapid execution of trades without the investor specifying a price limit. Under GPW WATS, these orders will be handled according to clearly defined rules designed to limit the possibility of any unexecuted portion remaining in the order book.

EXECUTION OR CANCELLATION

MO and MTL orders will:

- be executed immediately to the extent possible, or cancelled;
- have any unexecuted portion removed from the system;
- not remain in the order book as pending orders;
- not be automatically converted into another order type;
- be rejected if their execution could breach the applicable price limits.

WHAT DOES THIS MEAN FOR INVESTORS?

When placing a MO or MTL order, investors will know in advance that the order will be executed to the extent possible under the prevailing market conditions, while any unexecuted portion will be cancelled. The order will not remain in the order book or automatically change its order type.

VALIDITY OF MO AND MTL ORDERS

During the opening auction, closing auction and volatility auction phases, MO and MTL orders may only be submitted with the following disclosure and validity designations:

VFA: VALID FOR AUCTION

The order is disclosed in the order book at the start of the next opening auction, closing auction or volatility auction phase.

VFC: VALID FOR CLOSING

The order is disclosed in the order book at the start of the closing auction phase.

MO and MTL orders will be executed at the end of the relevant auction or volatility auction phase. Any unexecuted portion of the order will be cancelled.

During continuous trading, MO and MTL orders may only be submitted with the following validity conditions:

IOC: IMMEDIATE OR CANCEL

The order is executed immediately to the extent possible, and any unexecuted portion is cancelled.

FOK: FILL OR KILL

The order must be executed immediately in full. If full execution is not possible, the order is cancelled.

The availability of individual order types and validity conditions may depend on the trading phase and the rules applicable to the relevant market.

ORDER MODIFICATION AND TIME PRIORITY

An order resting in the Order Book may be modified without the need to cancel and submit a new order. However, the scope of permitted modifications depends on the order type, and certain changes may result in the loss of the order's existing time priority.

The following parameters of an active order may be modified:

TOTAL QUANTITY – the total number of instruments covered by the order.

INITIAL DISPLAY QUANTITY – the quantity initially displayed in the Order Book, applicable only to an Iceberg Order.

PRICE – the price specified in a Limit Order.

TRIGGER PRICE – the price level at which a Stop Order is activated.

GTD EXPIRY DATE – the expiry date of an order with Good Till Date (GTD) validity may be changed to another date. However, it is not possible to convert a Day (DAY) order into a Good Till Date (GTD) order by means of modification.

WHEN DOES AN ORDER LOSE ITS TIME PRIORITY?

In the Order Book, the execution sequence is determined primarily by price and time priority. Certain modifications result in assigning a new priority timestamp to the order, causing it to lose its current position in the execution queue.

An order loses its time priority in the following cases:

- changing the initial display quantity of an Iceberg Order,
- increasing the total quantity of a regular order,
- changing the price,
- changing the trigger price of a Stop Order.

CANNOT BE MODIFIED?

WHAT It is not possible to change one order type into another, for example:

- from a Limit Order to a Market Order,
- from a Market Order to a Market To Limit (MTL) Order,
- from a regular order to a Stop Order.

If an investor wishes to use a different order type, the existing order must be cancelled and a new order must be submitted.

Modifying certain order parameters may result in the loss of the order's current position in the execution queue.

ORDER EXECUTION PRIORITY IN PRACTICE

HOW DOES IT WORK IN PRACTICE?

BEFORE THE MODIFICATION

Three orders with the same price are resting in the Order Book:

- **Order A**, entered first
- **Order B**, entered second
- **Order C**, entered third

Order A has the highest time priority because it was entered into the Order Book first.

AFTER ORDER A IS MODIFIED

A modification of certain order parameters results in the loss of the order's existing time priority.

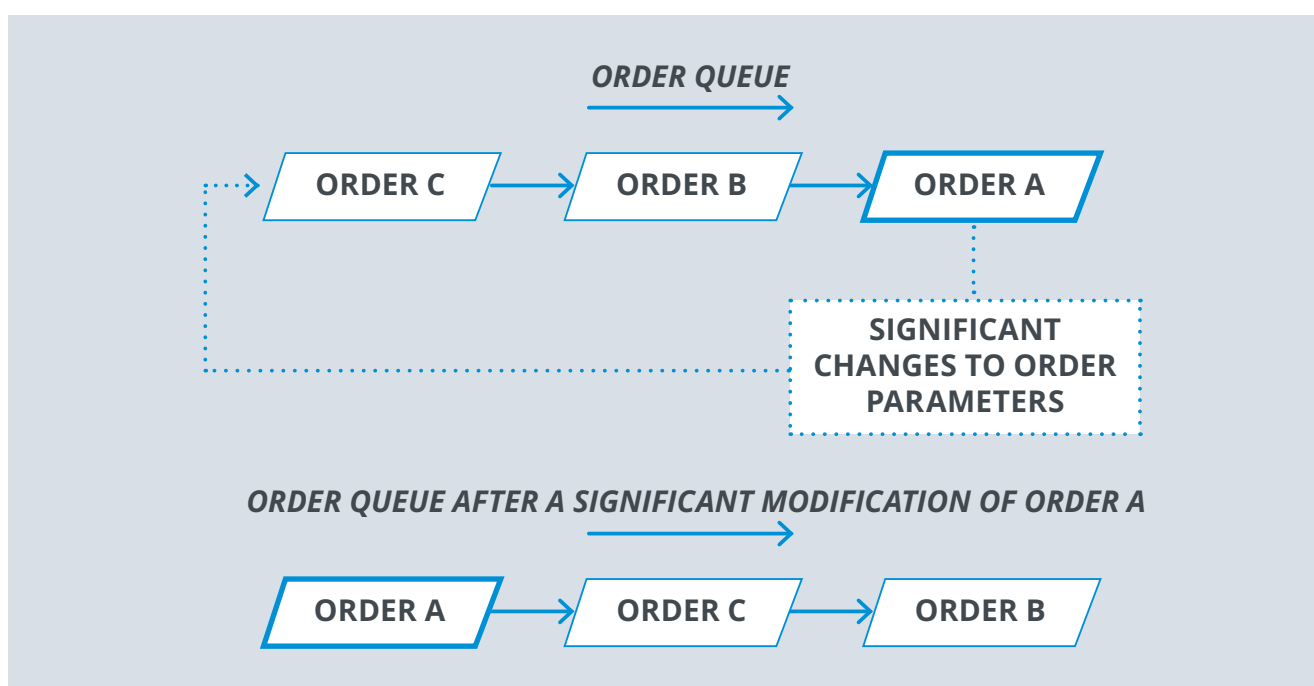
The modified order is assigned a new priority timestamp and is treated as a newly entered order. The execution order therefore becomes:

- **Order B**
- **Order C**
- **Order A**, with a new priority timestamp

BEFORE MODIFYING AN ORDER, CHECK:

- whether the modification will result in the loss of the order's time priority;
- whether the order type or validity condition can be changed;
- what will happen to the unexecuted quantity of the order.

Investors should consult the materials provided by their brokerage house or brokerage firm for detailed rules on order modifications and the way such changes are displayed.



AUCTIONS AND TRADING STABILITY

GPW WATS will introduce new auction rules and mechanisms designed to support orderly trading during periods of sharp price movements.



RANDOM OPENING

The time at which the price is determined will be randomized within a predefined time window:

- between **9:00:00** and **9:00:30** during the Opening Auction
- between **16:59:30** and **17:00:00** during the Closing Auction

The exact timing will be determined individually for each instrument, except for instruments traded under the Market Maker scheme. Market participants will therefore not know the exact second at which the price is determined.

WHY IS THIS IMPORTANT?

The mechanism reduces the impact of orders entered or cancelled during the final seconds of an Auction and supports a level playing field for all market participants.

INFORMATION AVAILABLE DURING AN AUCTION

During the Opening Auction, Closing Auction, and Volatility Auction, the full Order Book will not be published. Instead, investors will receive information showing the potential outcome of the Auction:

- **INDICATIVE MATCHING PRICE**
The price at which trades could be executed at a given moment during the Auction.
- **INDICATIVE MATCHING VOLUME**
The volume that could be executed at that price.

In the case of an uncrossed order book, the highest buy limit and the lowest sell limit will be published.

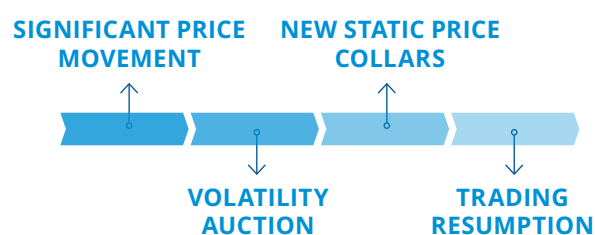
The Random Opening mechanism, as an integral part of the Auction phase, together with information on the Indicative Matching Price and Indicative Matching Volume, as well as the new balancing rules, supports a transparent and orderly trading process.

VOLATILITY AUCTIONS

In the event of a significant price movement, an instrument may enter a Volatility Auction. During this phase, investors may enter, modify, or cancel orders before trading resumes.

For selected instruments, GPW WATS will support the automatic resumption of trading within new static price collars after:

- **60 seconds** – equities included in the WIG20 Index and equities traded in the single-price auction system;
- **120 seconds** – equities included in the mWIG40 Index, ETFs, ETNs, and ETCs;
- **300 seconds** – other equities and debt instruments.



CONTINUOUS TRADING AT CLOSING PRICE

Continuous Trading:

- lasts **300 seconds**;
- takes place after the Closing Auction, provided that trades were executed during the auction;
- allows orders to be entered with any price limit;
- executes orders according to their time priority;
- enables trades to be executed at the Closing Auction Price.

WHY IS THE WARSAW STOCK EXCHANGE CHANGING ITS TRADING SYSTEM?

The transition from the previous UTP trading system to GPW WATS is more than just a technology replacement. It is an investment in a modern proprietary platform designed to meet the needs of a growing capital market and to enable the Warsaw Stock Exchange to introduce new solutions more efficiently.

GPW WATS has been designed as a modern, modular, flexible and scalable trading system. It is intended to modernise the Exchange's technology infrastructure, optimise the costs associated with trading operations and support the further development of the Exchange's services.

WHAT MAKES GPW WATS STAND OUT?



TECHNOLOGY DEVELOPED BY GPW

GPW WATS is a platform developed by the Warsaw Stock Exchange to meet the needs of the Polish capital market. In-house technology gives the Exchange greater control over the future development of the system and reduces its reliance on external providers.

For the market, this means: better alignment of solutions with the future needs of market participants.



PERFORMANCE AND LOW LATENCY

The system has been designed to process a high volume of transactions quickly, even during periods of intense market activity.

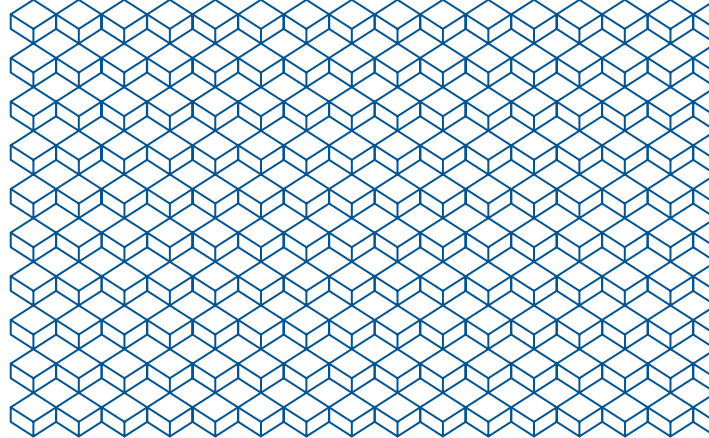
For the market, this means: a modern technology infrastructure designed to support efficient trading.



SCALABILITY

GPW WATS is designed to handle up to 300 million operations during a trading session, with the capacity to scale up to 1 billion operations per day without requiring changes to the system architecture.

For the market, this means: the ability to increase system capacity as the activity of investors and market participants grows.



MODULAR ARCHITECTURE

The modular design of GPW WATS means that the system consists of specialised components that work together seamlessly. This approach provides a foundation for the ongoing development of individual platform areas in line with evolving market needs.

For the market, this means: greater technological flexibility and room for the further development of functionalities.



FIX 5.0 SP2 STANDARD

GPW WATS uses a standards-compliant FIX 5.0 Service Pack 2 interface. The FIX interface will provide participants with access to the Warsaw Stock Exchange and BondSpot markets. The system will also support access through a binary interface.

For the market, this means: communication based on a widely recognised standard used by financial market institutions.



ENHANCED DEVELOPMENT OF SERVICES AND PRODUCTS

The Exchange's proprietary and flexible system is designed to enable GPW to respond more effectively to market needs and further develop its offering. GPW WATS has been designed as a platform capable of supporting multiple asset classes as well as additional solutions to be introduced in the future.

For the market, this means: a technological foundation for the introduction of new functionalities, services and products

The Warsaw Stock Exchange is changing its trading system to modernise the market's technological infrastructure and support its future growth and development.

GPW WATS combines proprietary technology, high performance, scalability, a modular architecture, and modern communication standards. As a result, the Warsaw Stock Exchange gains a platform designed not only to support today's market but also to enable its future growth and development.

GPW WATS IN NUMBERS

TECHNOLOGY DESIGNED FOR A GROWING MARKET

GPW WATS combines low-latency processing with high performance and the ability to further scale system capacity as market demand grows

50 MICROSECONDS

Target processing latency for 90% of orders at a load of 5,000 operations per second.

300 M
OPERATIONS PER
TRADING SESSION

The system's designed capacity, enabling it to handle a very large number of messages and operations during a single trading session.

40 K
OPERATIONS PER SECOND

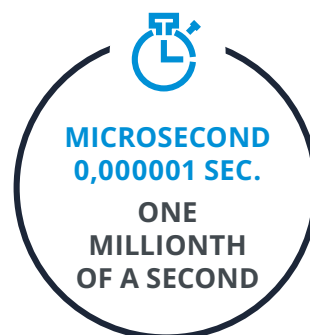
The load level at which the 50-microsecond latency target has been defined for 90% of processed orders.

UP TO **1** BN
OPERATIONS PER DAY

The ability to increase system capacity without changing the solution architecture and without degrading other performance parameters.

100
MORE THAN
PROJECT STAKEHOLDERS

Preparations for the implementation involved market participants and institutions forming the Polish capital market ecosystem, including brokerage houses and brokerage firms, market data vendors, software providers, the Polish Financial Supervision Authority (KNF), KDPW and KDPW_CCP, the Polish Chamber of Brokerage Houses, companies of the GPW Group, as well as the Warsaw University of Technology and the Wrocław University of Science and Technology.



From microseconds to a billion operations per day. GPW WATS has been designed to deliver both high-speed performance and the scalability required to support a growing market.

GPW WATS WITHOUT SECRETS

Key terms to help you understand the new system:



TRADING SYSTEM

The technological core of the Exchange. It receives orders, organises them in the Order Book and matches them according to the trading rules of the market.



SCALABILITY

The ability of the system to handle an increasing number of operations without requiring changes to its core architecture.



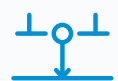
AUCTION

A market phase during which orders are accumulated and then used to determine the price of a given instrument.



RANDOM OPENING

A mechanism that randomises the timing of Auction uncrossing within a predefined time window.



INDICATIVE MATCHING PRICE

Shows the price at which trades could be executed at a given moment during an Auction.



MARKET ORDER (MO)

An order to buy or sell without a specified price. It is executed at the best available opposing price or prices.



INDICATIVE MATCHING VOLUME

Shows the volume that could be executed at the Indicative Matching Price.



MARKET TO LIMIT ORDER (MTL)

An order without a specified price that is executed at the best available opposing price level.



VOLATILITY AUCTION

A market phase triggered automatically in specific situations, including significant price movements. Its purpose is to support an orderly resumption of trading.



LOW LATENCY

Low processing delay within the trading system. It does not represent the total time from submitting an order through a brokerage application to the execution of a trade.

GPW WATS is not a new investment application. It is the trading system of the Warsaw Stock Exchange, responsible for processing orders submitted through brokerage houses and brokerage firms.



WATS^{GPW}

GPW WATS is the new technological core of the Warsaw Stock Exchange. This proprietary platform has been designed to support efficient trading and the continued development of the Polish capital market.

LEARN MORE >

Official project website
and documentation

gpwwats.pl/en

Information about the
Exchange and media resources

gpw.pl/en

Media
enquiries

press@gpw.pl

NEW SYSTEM. A NEW CHAPTER IN MARKET DEVELOPMENT.

This brochure is intended for information purposes only. Detailed and binding regulations are contained in the Exchange Rules, the Detailed Exchange Trading Rules and the Alternative Trading System (ASO) Rules. More detailed descriptions of the system's functionalities can be found in the GPW WATS documentation.

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