

# Migrating PEARL to the Cloud

May 2026



# Introduction

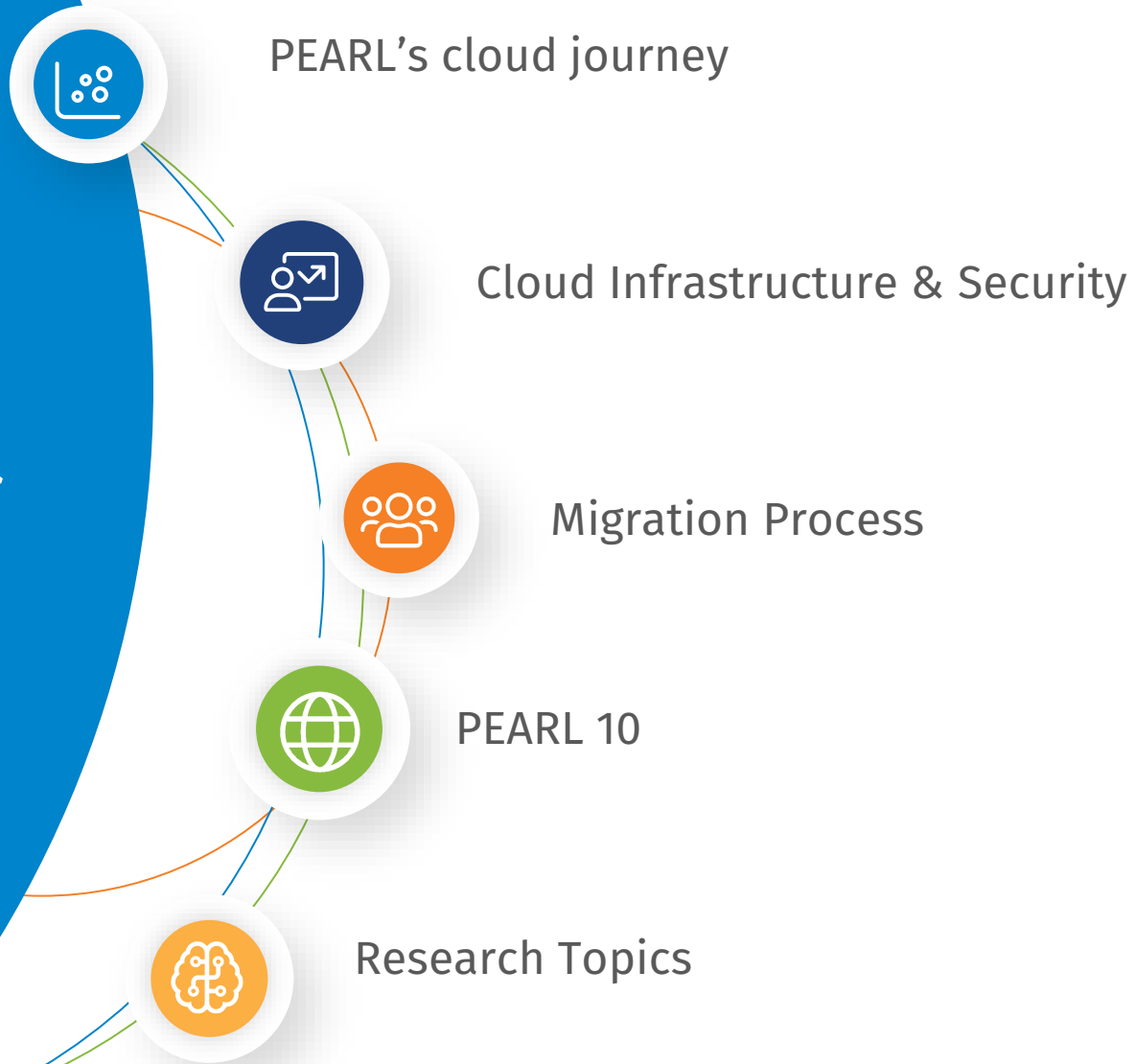


**Bas  
Leerink**  
Team Leader IP  
Business Support



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Web Engineering

# Agenda



# PEARL's cloud journey

Started with the Ortec Finance tech strategy



**Scalable infrastructure & applications**

**Geographic independence**

**Security by Design**

**Automation**

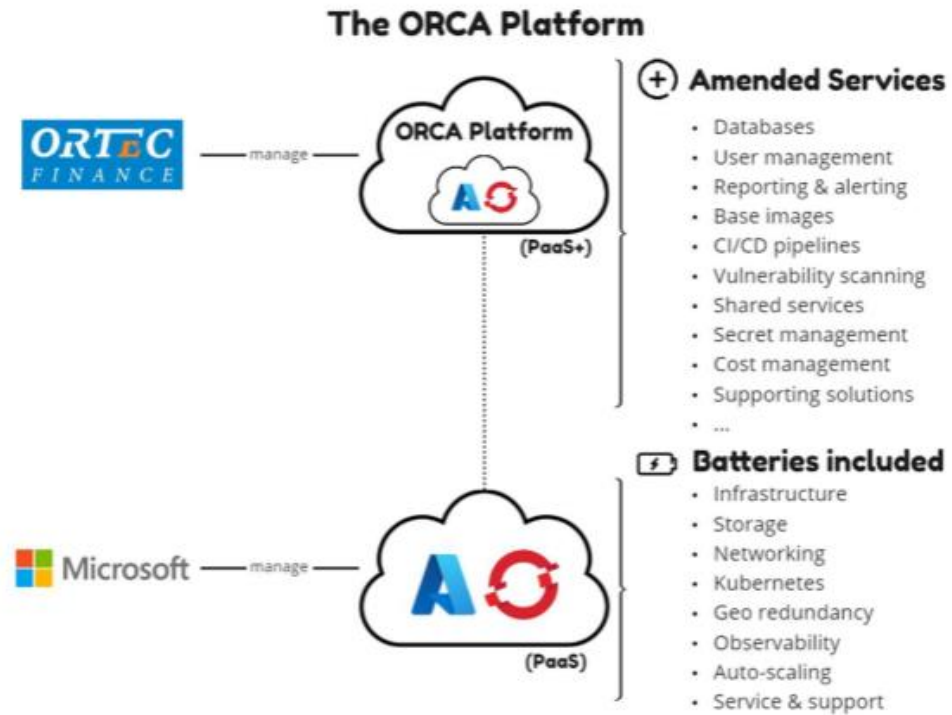
**Tech Stacks**

**Automated Delivery**



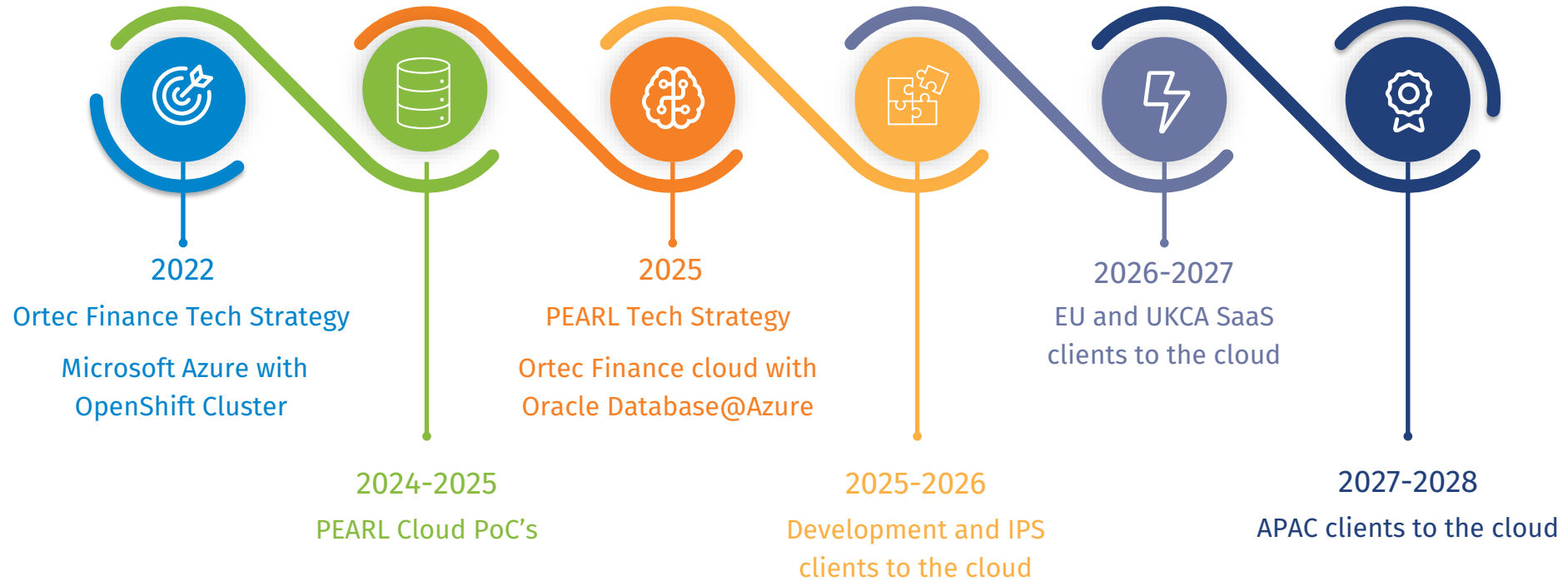
# PEARL's cloud journey

The Ortec Finance cloud application platform



**ORACLE**  
DATABASE @ Microsoft Azure

# PEARL's cloud journey



# What are the benefits



# PEARL Cloud Infrastructure

 **PEARL** PEARL Solution



ORCA Platform



Red Hat OpenShift

Oracle @ Azure



Microsoft Azure



# PEARL cloud infrastructure

## Microsoft Azure



- Cloud platform
- Availability Zones
- Identity and Access Management
- Network security
- Data Protection
- Platform Security
- Monitoring and logging services
- Compliance (ISO 27001, SOC1/SOC2)

PEARL Solution

ORCA Platform

Red Hat  
OpenShift

Oracle @  
Azure

Microsoft Azure

# PEARL cloud infrastructure

## Oracle@Azure

ORACLE

- Oracle Cloud Infrastructure (hardware) within Azure Cloud
- Data Encryption
- Encryption Key management
- Secure connection between clouds
- Network security

PEARL Solution

ORCA Platform

Red Hat  
OpenShift

Oracle @  
Azure

Microsoft Azure

# PEARL cloud infrastructure

## Red Hat OpenShift



- Secure Container (Kubernetes) Platform
- Guardrails
- Workload isolation
- Secure container runtime
- Patching
- CI/CD security
- Supply chain controls

PEARL Solution

ORCA Platform

Red Hat  
OpenShift

Oracle @  
Azure

Microsoft Azure

# PEARL cloud infrastructure

## ORCA Platform



- Security by Design Platform
- Focus on product development support (CI/CD)
- Governance
- Enforcement
- Operational security

PEARL Solution

ORCA Platform

Red Hat  
OpenShift

Oracle @  
Azure

Microsoft Azure



# PEARL cloud infrastructure

## PEARL Solution



- DevOps principles
  - Collaboration & communication
  - Automation
  - Continuous improvement
  - Customer-centric mindset
  - Fast feedback loops
- Security by Design
  - Client Isolation

PEARL Solution

ORCA Platform

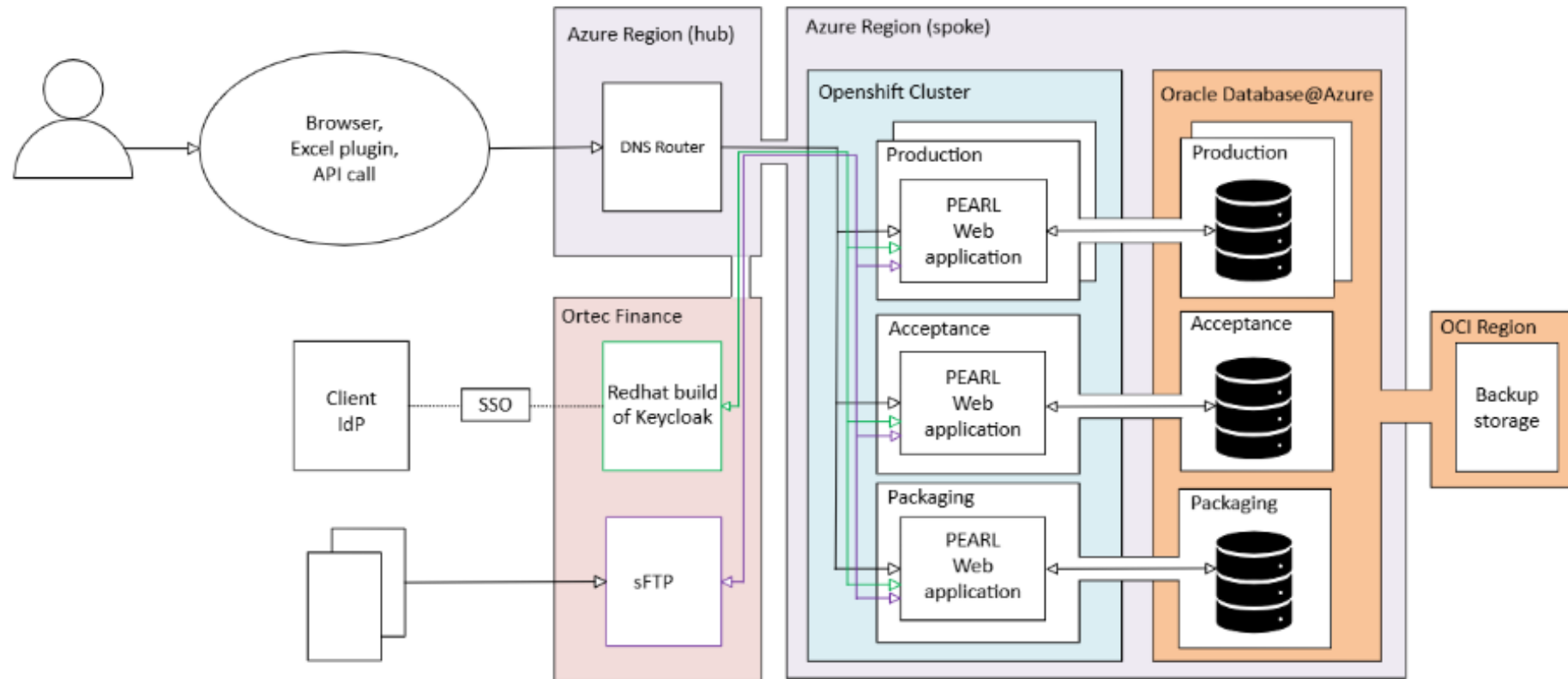
Red Hat  
OpenShift

Oracle @  
Azure

Microsoft Azure



# PEARL cloud infrastructure



# Security - Pentest



## 1.1 Conclusion

The security assessment resulted in a total of two low risk findings. No vulnerabilities were identified that break the segmentation between clients. It can be said that the cloud environment is configured with security in mind.

# Security – Disaster Recovery test



## Executed tests:

- Switch-over
- Fail-over
- Restoring from Back-up
- Rebuilding the Openshift Cluster

# Security – Fire Drill



*“Overall, the Fire Drill results give strong confidence to proceed to production for the IPS customers. The team demonstrated solid technical capability, good collaboration under pressure, and the ability to recover from a wide range of failure scenarios.”*

A Fire drill will be executed:

- At least once every two years
- When impactful infrastructure changes are implemented.



# Performance test results

- For the performance test of batch calculations in the cloud setup, we have configured an *Oracle Base Database @Azure* with comparable specs as the on-premise performance test server.
- Overall, the test shows that this batch performance is on-par (slightly faster) with our on-premise database setup in all tested scenarios
  - Full recalculation
  - One week of new data
  - Set of backdated configuration changes



# PEARL Versions

Version	8.5.2	9.1.2	9.2	9.4	9.5	10
Release Date	February 2024	April 2024	May 2024	January 2026	Planned for September 2026	Planned for end of 2026
On-Prem	X	X				
Hosted SaaS & IPS	X	X	X	X	X	
Cloud SaaS & IPS				X*	X	X

\* A service release might be required to support SaaS clients in the cloud



# The migration process

For hosted clients to the cloud

- Prerequisites:
  - Client is on a cloud supported version
  - Legal foundation in place (this might require a contract addendum or new delivery agreement)
- Individual migration plan per client
  - Acceptance testing on Cloud Production setup
  - Minimal downtime of production processes
  - Current hosted setup remains available after migration as a fallback scenario

# Agenda



PEARL's cloud journey



Cloud Infrastructure & Security



Migration Process



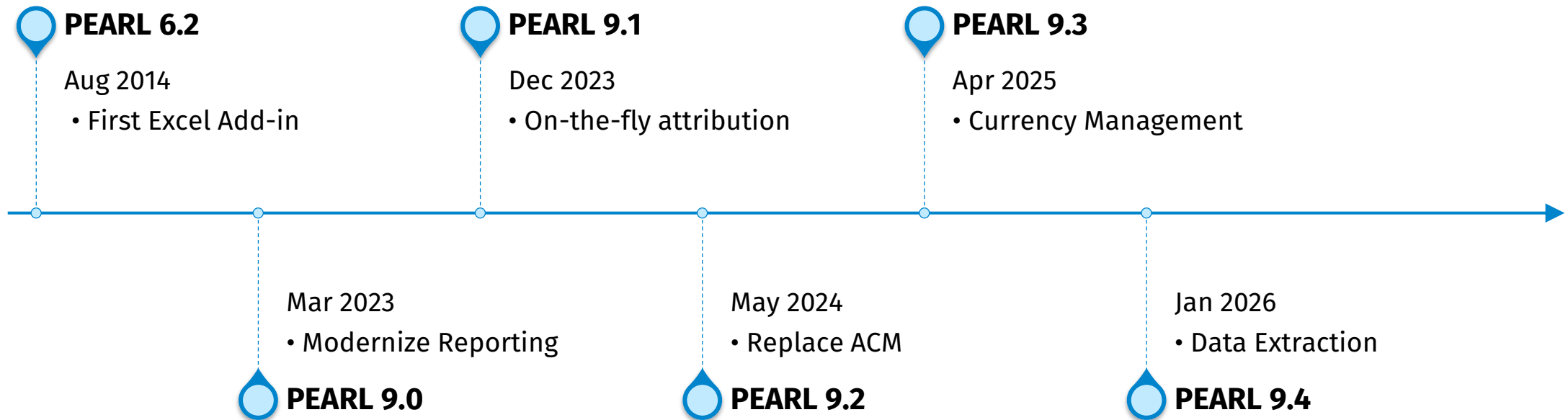
PEARL 10



Research Topics

# PEARL release timeline

History of various PEARL releases





# PEARL 10

## Preview

### PEARL 10 to be released end-of-2026

- Cloud-powered
- Modernized Web Portal interface
  - Improved accessibility, using modern UX conventions
  - Consistent user interaction, reducing cognitive load for users
  - Dynamic theming, allowing for easier adjustments and possibly enabling dark-mode

# PEARL 10

## Preview

The screenshot displays the Ortec Finance PEARL 10 Fund Structures configuration interface. The top navigation bar includes the Ortec Finance logo, the text "PEARL", a "Development" environment indicator, and a dropdown menu for the environment "PEARL\_MAIN".

The main interface is divided into several sections:

- Left Sidebar:** Contains navigation options for Reporting, Setup, Jobs, Configuration, Checks, and GPS. Under Configuration, "Funds" is expanded to show "Fund structures" and "Portfolios".
- Header:** Shows "Fund Structures" with actions for Create, Copy, Delete, Save, and Discard changes. Below this, it displays "Fund: Fund F001 Asset Manager Balanced Fund" and "View Date: 2023-08-17".
- Main Content Area:** Features a "Time interval" dropdown set to "2016-12-31 - 2023-08-17", a "Search nodes" input field, and a "Portfolios" button. A tree view shows the fund structure with expandable nodes for "Asset Manager Balanced Fund", "Gross Results", "Fixed Income", "Equity", "Real Estate", and "Fees".
- Right Panel:** Contains "Definition" and "Calculation Settings" tabs. The "Definition" tab is active, showing fields for Name, ID, Lifetime, Currency, Periodicity, Holiday Calendar, FX Set, and Currency Overlay. The "Output" tab shows fields for Calculate output, Latest report date, and Publish output.
- Bottom Left:** A "Module Settings" button with a double-left arrow icon.



# PEARL 10

## Preview

The screenshot displays the ORTEC Finance PEARL 10 software interface. The top navigation bar includes the logo, environment settings (Development, PEARL\_MAIN), and user profile. The main content area is titled 'Attr: Main' and shows details for 'Fund F002 Pension Fund, Pension Scheme (in 1,000,000)'. It includes filters for 'End date' (Latest date, 17/08/2025) and 'Period' (Year-to-date, 01/01/2025). The 'Fund Performance' section features a table with columns for Description, Benchmark, Ccy, Market Value, Cash Flows, PF Gain, BM Gain, XS Gain, PF Return, BM Return, XS Return, PF Contribution, BM Contribution, and XS Contribution. Below this, the 'Returns' section shows a table with columns for Period, PF Return (Single Period, Cumulative), BM Return (Single Period, Cumulative), XS Return (Single Period, Cumulative), and Assetclass. The 'Gains and Returns' section also displays a similar table for a different period.

**Fund Performance Table:**

Description	Benchmark	Ccy	Market Value	Cash Flows	PF Gain	BM Gain	XS Gain	PF Return	BM Return	XS Return	PF Contribution	BM Contribution	XS Contribution
Asset Manager Balanced Fund	Total Benchmark	EUR	23.2626	0.8782	1.1016	0.6933	0.4083	5.0557%	3.1363%	1.9194%	5.0557%	3.1363%	1.9194%
Net Market Results	Asset Manager Fund Index	EUR	23.2625	0.8782	1.0192	0.6109	0.4083	4.6676%	2.7603%	1.9073%	4.6773%	2.7640%	1.9193%
Gross Results	Asset Manager Fund Index	EUR	23.2625	0.8782	1.0342	0.6109	0.4233	4.7391%	2.7603%	1.8788%	4.7473%	2.7640%	1.9904%
Fixed Income	ML Eurozone Corporate Credits	EUR	14.0677	-1.1150	0.2372	0.2609	-0.0237	1.9377%	2.0736%	-0.1360%	0.9701%	1.3612%	-0.4226%
Equity	MSCI World	EUR	8.4442	1.2657	0.8339	0.3248	0.5091	7.8514%	3.5173%	4.3341%	3.9408%	1.4028%	2.5798%
Real Estate	N/A	EUR	0.6907	-	-	-	-	-	-	-	-	-	-
Fees	Zero Index (EUR)	EUR	0.0000	0.0000	-0.0150	0.0000	-0.0150	-0.0653%	0.0000%	-0.0683%	-0.0700%	0.0000%	-0.0710%

**Returns Table:**

Period	PF Return Single Period	PF Return Cumulative	BM Return Single Period	BM Return Cumulative	XS Return Single Period	XS Return Cumulative	Assetclass
2018-01-09	0.7287%	1.4549%	0.8671%	0.8004%	-0.1304%	0.6536%	-
2018-01-10	0.3732%	1.8286%	0.3323%	1.1353%	0.6409%	0.6973%	-
2018-01-11	0.0813%	2.7309%	0.6771%	1.8201%	0.2042%	0.9099%	-
2018-01-12	-0.2393%	2.4842%	-0.0302%	1.7812%	-0.2019%	0.7031%	-
2018-01-13	-0.0023%	2.4818%	0.0000%	1.7812%	-0.0023%	0.7007%	-
2018-01-14	-0.0023%	2.4794%	0.0000%	1.7812%	-0.0023%	0.6983%	-
2018-01-15	-0.1255%	2.3508%	-0.2661%	1.5193%	0.1400%	0.8405%	-
2018-01-16	-0.4435%	1.8966%	-0.4612%	1.0421%	0.0177%	0.8547%	-
2018-01-17	0.7565%	2.6677%	0.4633%	1.5102%	0.2922%	1.1575%	-

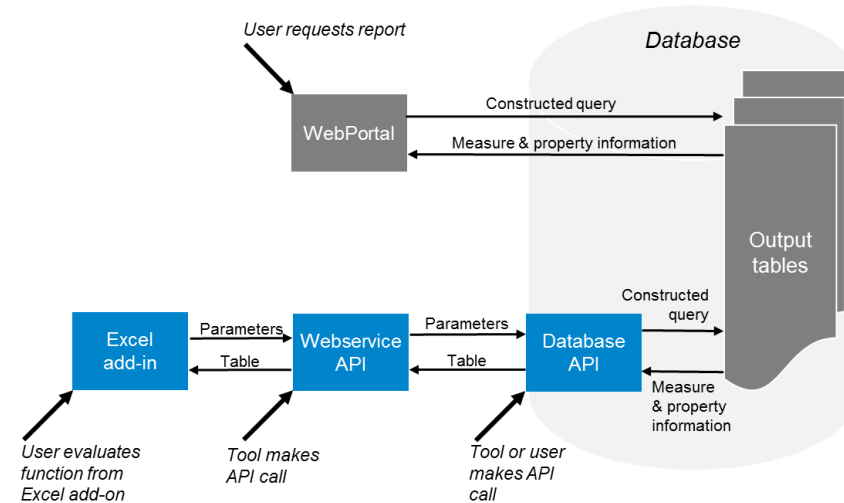
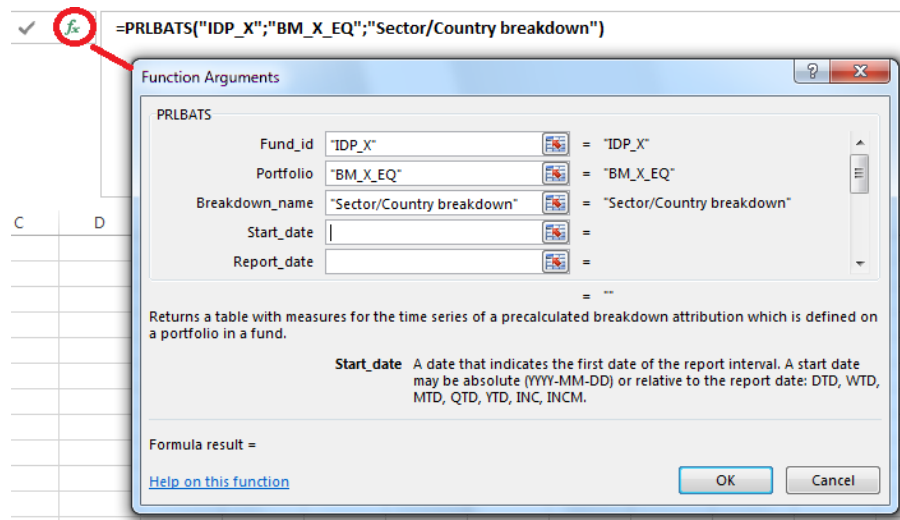
**Gains and Returns Table:**

Period	PF Return Single Period	PF Return Cumulative	BM Return Single Period	BM Return Cumulative	XS Return Single Period	XS Return Cumulative	Assetclass
2018-01-01	-0.0532%	-0.0532%	-0.4269%	-0.4269%	0.3737%	0.3737%	-
2018-01-02	0.7623%	0.7087%	0.5826%	0.1532%	0.1797%	0.5544%	-
2018-01-03	-0.5508%	0.1540%	-0.6905%	-0.5383%	0.1380%	0.6924%	-
2018-01-04	0.3666%	0.5212%	0.3846%	-0.1550%	-0.0100%	0.6770%	-
2018-01-05	0.2000%	0.7230%	0.3651%	0.2087%	-0.1643%	0.5143%	-
2018-01-06	-0.0023%	0.7207%	0.0000%	0.2087%	-0.0023%	0.5120%	-

# PEARL 365

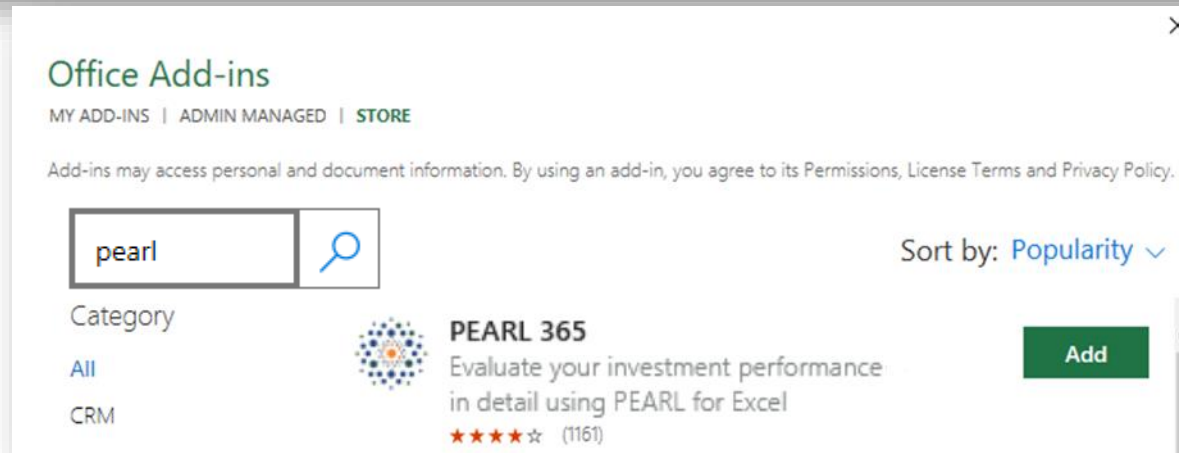
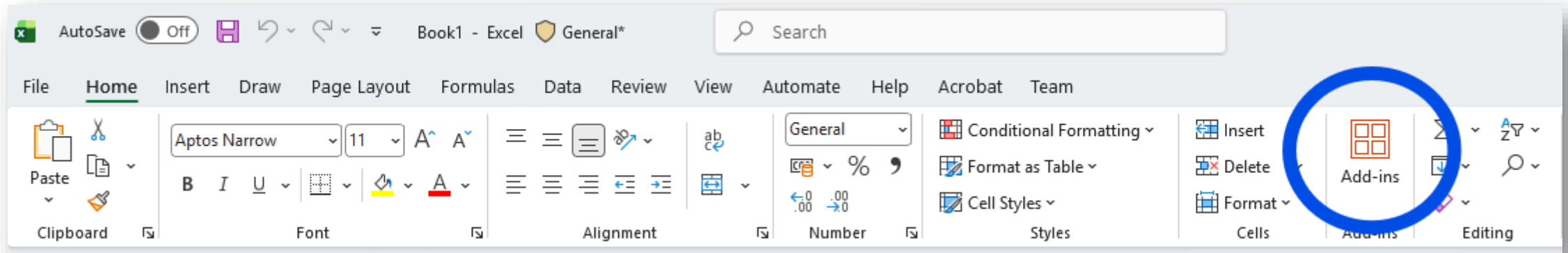
## Preview

PEARL Excel Add-in introduced 12 years ago



# PEARL 365

## Preview



# PEARL 365

## Preview

### PEARL 365 advantages

- Easy installation for users
- Working together with colleagues in a shared workbook
- Supported in web-Excel (365)

Internal test in progress

The screenshot displays an Excel spreadsheet with a PEARL 365 sidebar. The spreadsheet data is as follows:

Description	BM - Name	Currency - Identifier
YTD	YTD	YTD
Asset Manager Balanced Fund	Total Benchmark	EUR
Net Market Results	Asset Manager Fund Index	EUR
Gross Results	Asset Manager Fund Index	EUR
Fixed Income	ML Eurozone Corporate Credits	EUR
Equity	MSCI World	EUR
Real Estate	N/A	EUR
Fees	Zero index (EUR)	EUR
Currency Overlay	Asset Manager Currency Overlay Benchmark	EUR
Virtual Hedge Offset	Virtual Hedge Offset	EUR

The PEARL 365 sidebar includes the following sections:

- Settings**: Place to configure and apply various PEARL 365 settings. Request timeout (seconds) is set to 600. Show run status is checked.
- Version control**: Tool for quickly switching between different PEARL versions in the current workbook. Version from is set to 10. Version to is set to Latest.

# AI in PEARL

Research topic

- Integrating AI into processes and PEARL is a *balancing act*
- AI in PEARL, powered by cloud technology
  - Oracle 26ai Database
  - Azure AI ecosystem
- Research projects into applying AI in PEARL
  - Data Detective
  - PEARL Artificial Intelligence Narrative Tool





# Data Integration

Research topic

Moving to the cloud supports better integration of:

- Snowflake
- Databricks

In 2026, research projects focus on integration with PEARL





Questions?





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