

# OpenAIR

Investment Monitoring System

OpenAIR Concept

Business Benefits

Information Flow

Database Structure

Income Monitoring

Reporting

FX Comparison

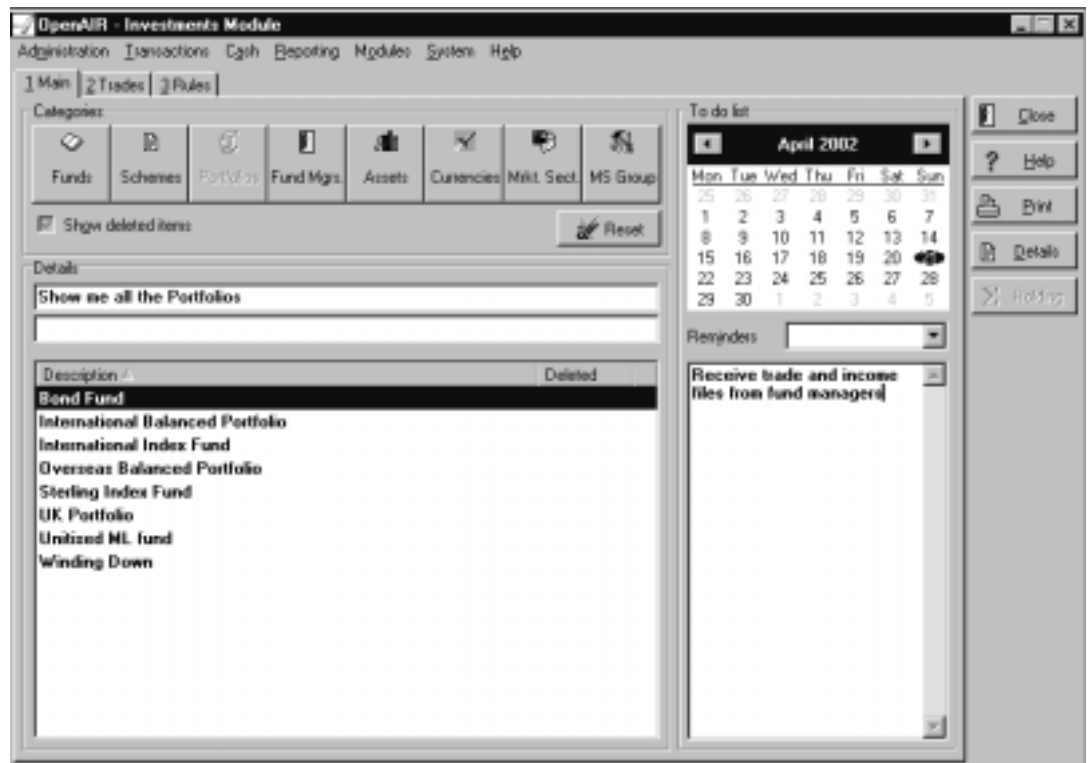
Auto Reconciliation

Period End

Technical Features

Hardware

TVA



## 'Euraplan Brings OpenAIR Verification'

*OpenAIR Investments provides pension schemes with independent verification of the actions of their custodians and fund managers, greatly reducing collation and reporting times.*

Pensions Management, September 2001



*Euraplan voted 'Systems & Software Provider of the Year'*



*Leaders in Fund Monitoring and Pension Accounts*

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# The OpenAIR Concept



*OpenAIR Concept*

*Business Benefits*

*Information Flow*

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*Period End*

*Technical Features*

*Hardware*

*TVA*

The 'OpenAIR' concept stems from a core objective of providing an **Open** System for **A**ccounts, **I**nvestment and **R**econciliation. OpenAIR consists of two modules, Investments and Accounts, both of which are fully compliant with OpenDatabase Connectivity (ODBC) relational databases and standard report writers.

The two systems have been developed to interface with each other, although they can stand alone and have the flexibility to integrate with other systems, using leading-edge technology.

OpenAIR Investments has been built to give institutional investors total control over their investments, allowing them to police their fund managers and custodians. The entire system is built around the concept of stringent controls and minimum manual intervention. This allows us to deliver invaluable investment solutions at a touch of a button.

OpenAIR is Euraplan's flagship solution, it offers a revolutionary quality of pension accounting and investment monitoring to occupational pension schemes.

## **OpenAIR Accounts**

Designed specifically with pension funds in mind, OpenAIR Accounts is a financial reporting system that provides complete control over all pension schemes' financial operations. It produces Statement of Recommended Practice (SORP) accounts at the 'press of a button'.

The system integrates securely with administration systems, payroll systems and third-party reporting tools. It ensures that efficient and automatic data entry methods are used to offer time and cost savings.



# The OpenAIR Concept



## *OpenAIR Concept*

The principal benefits which pension schemes will gain from OpenAIR Investments is meticulous, independent verification of their custodians' and fund managers' activities and a reduction in the time spent collating and reporting on investments.

## *Business Benefits*

## *Information Flow*

OpenAIR Investments allows you to police the investment process from trade to final reports.

## *Database Structure*

OpenAIR Investments stores and reports all values in multi-currency. It has the ability to accrue outstanding trades, income, tax recoverable and foreign cash on an ad-hoc basis.

## *Income Monitoring*

## *Reporting*

Input is secure and efficient through the automatic posting links Euraplan has with over 45 fund managers and custodians worldwide. Manual entries like automated postings are user, time and date stamped.

## *FX Comparison*

## *Auto Reconciliation*

Independent checks are made on income received and receivable, corporate action entitlements, foreign exchange and market valuations by taking the FT Information dividend, corporate action, exchange rates and pricing feeds.

## *Period End*

## *Technical Features*

Automatic reconciliation independently checks the valuation of the custodian to the fund manager.

## *Hardware*

## **The Way Forward**

## *TVA*

Euraplan is in a unique position to address the information technology requirements of the pension fund industry. It will continue to develop state-of-the-art fund monitoring and accounting solutions as an industry-leading software supplier.

Euraplan is also investing heavily in the very latest technology in order to deliver systems that will further strengthen the business operations of its clients. The organisation is committed to providing the industry standard for pension accounting and investment monitoring systems.



# The OpenAIR Concept



## OpenAIR Concept

The OpenAIR solution can automate the pension investment and accounting process from the moment a trade has been performed until it is reported in the year-end accounts and SORP notes.

## Business Benefits

Through the technology used the solution can 'speak' to other systems used within the pension scheme process i.e. banks, payroll, administration, fund managers and custodians.

## Information Flows

It can also output data to reports or other systems i.e. ONS Returns, VAT, Analytics TVA - Transaction Value Analysis (see page 15 for detail).

## Database Structure

## Income Monitoring

## Reporting

## FX Comparison

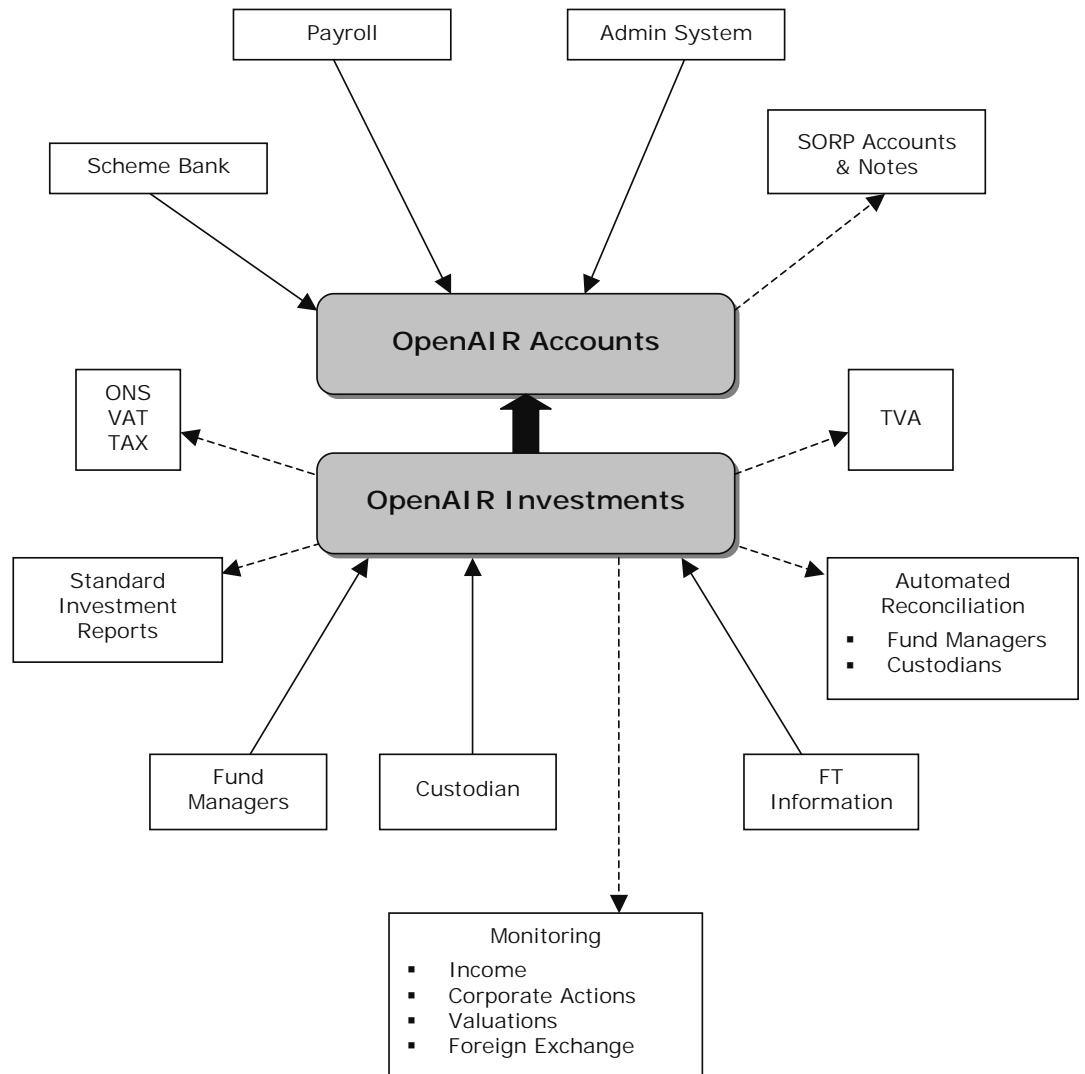
## Auto Reconciliation

## Period End

## Technical Features

## Hardware

## TVA



# Business Benefits



OpenAIR Concept

**Business Benefits**

Information Flows

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## Automation

- Input of all:
  - trades
  - income
  - corporate actions
  - ad hoc cash postings.

- Download of:
  - market prices
  - income and corporate action entitlements
  - foreign exchange rates.

- Reconciliation between fund managers and custodian.

- Creation of accounting journals.

## Control

- Independent verification of:
  - income
  - interest in cash
  - corporate actions
  - market values
  - foreign exchange rates.

- Mandate compliance of:
  - asset allocation
  - cash management

- Automated reconciliation between fund managers and custodian.

## Reporting

- System flexibility.
- Multi-currency.
- Historic and current investment monitoring reporting.

## IT Strategy

- Technical compliance i.e. ODBC relational database and standard report writer.

- Future and Euro compliant.

## Usability

- Single Document Interface allows the user to view only what is required to complete the task.

## Security

- As all window components (e.g. menu items and buttons) are registered within the system, it allows total control over which features users can access.

- Industry wide posting rules and standards are used to control the input of all transactions.

- Built in warnings alert the user of limitation and holding breaches.

- Automated transaction downloads minimises posting errors.

## Relational database

- Built in integrity checking.
- Reduces storage requirements.
- Reduces data redundancy.
- Simple data access and manipulation.



## Information Flow

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OpenAIR Concept

There are two ways to input data into OpenAIR Investments, either manually or automatically. The former is used mainly by self-managed funds and the latter by externally managed funds. The input of the trades, corporate actions, income and cash postings can be sourced from either the custodian or the fund managers.

Business Benefits

Euraplan has a long history of developing automated interfaces with financial institutions and this method of data transfer is one of our core strengths. It reduces data input time, avoids manual data errors and most importantly verifies every transaction.

Information Flow

Database Structure

The data verification is a key part to OpenAIR Investments, as it ensures that the data being input is correct and therefore reduces the reconciliation issues.

Income Monitoring

For Example; every trade is checked to make sure that:

Reporting

$$(\text{shares} * \text{price}) - / + \text{charges} = \text{net amount}$$

FX Comparison

It also checks that the trade currency on the automated file equals the trade currency OAI. If data fails the verifications full and meaningful error messages are displayed.

Auto Reconciliation

With the input of income and corporate actions, the independent monitoring occurs at input. This prevents having to do an extra task and again reduce input time. Once the data is in, there are several tools for reconciling the data.

Period End

Technical Features

Automatic Reconciliation features in more detail on page 11, other reconciliation tools are:

Hardware

- Book Cost Reconciliation Report
- Detailed Cash Statements
- Trade Listings
- Income Received Listings

TVA

In fact, all outputs are continuously being improved. In addition, all reports and screens can be downloaded into Excel and Word as well as being printed.

Valuations have their own templates, so you can design the valuation structure to fulfil your requirements and ad-hoc reports can be designed through the use of a third party reporter and there is the period end function to create your accounting journals.

## Database Structure



OpenAIR Concept

OpenAIR Investments uses advanced relational database technology, and object based programming creates a flexible system of components that can be connected in all manner of combinations. Future and present needs are met through the system's business functionality and flexibility. Components can be in different currencies to provide full multi-currency reporting.

Business Benefits

The investment data is linked through to the accounting data via the scheme, portfolio, market sector groups and also the bank account. The database is set up to be as flexible as possible.

Information Flows

Database Structure

Euraplan tailor the structure to suit each client. Ordinarily, OpenAIR Investments is designed around the structure of investment mandates, so that pension funds can monitor their mandates more effectively.

Income Monitoring

Reporting

In fact, many of OpenAIR Investments components can be altered by the user if the mandates are changed. By using this approach, OpenAIR Investments can change inline with the investor's requirements and be effective throughout the life span of the investment fund.

FX Comparison

Auto Reconciliation

A typical example of this approach in practice is when a fund manager classifies assets in non-standard industry sectors. In OpenAIR Investments, the user can dictate which industry sectors to apply and determine which assets go in which sector.

Period End

Technical Features

Many pension schemes could also classify assets in two sectors, hence being able to report in both standard sectors and in the fund managers sectors.

Hardware

TVA

### Euraplan brings OpenAIR verification

*'Pension fund accounting and fund monitoring software house Euraplan has launched OpenAIR Investments, a new system designed to meet the investment monitoring requirements of large pension funds with £750m or more of assets under management.'*

*'The product provides pension schemes independent verification of the actions of their custodians and fund managers, greatly reducing collation and reporting times'*

Pensions Management

September 2001

# Income Monitoring



OpenAIR Investments takes an independent feed from FT Information which lists all income announced for a specific period. Once downloaded into the system, OpenAIR Investments compares the holdings for each portfolio or scheme to this list and creates an income due but not received list.

OpenAIR Concept

Business Benefits

Information Flows

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Asset Description	Outstand. Holding	Ex Date	Rate	Trade Net Inc.	Acc. Net Inc.
TREASURY 3% INDEX LINKED SE	560,000,000	26/01/2003	1.000001	6,154.91	6,154.91
PHARMACIA CORP COM	14,500,000	01/02/2003	0.135000	1,863.87	1,812.27
AEA TECHNOLOGY ORD GBP0.12	43,600,000	03/02/2003	0.015555	610.52	610.52
WORKSPACE GROUP ORD GBP0.	41,600,000	03/02/2003	0.003333	3,170.00	3,170.00
BELLSOUTH CORP COM STK	14,200,000	03/02/2003	0.200000	2,814.00	1,468.64
VERIZON COMMUNICATIONS CO	24,700,000	03/02/2003	0.305000	8,003.87	4,917.61
GREAT UNIVERSAL STORES OR	110,400,000	07/02/2003	0.075007	8,169.61	8,169.61
BERKELEY GROUP ORD GBP0.25	34,400,000	14/02/2003	0.053333	4,521.19	4,521.19
PYRER INC COM	26,300,000	14/02/2003	0.150000	3,953.25	2,848.06
ABBOTT LAB COM	14,500,000	15/02/2003	0.235000	2,895.37	1,762.10
LONMIN ORD USD1	20,000,000	17/02/2003	0.257300	6,022.90	6,022.90
FTI PLC ORD GBP	42,000,000	20/02/2003	0.040007	1,704.00	1,704.00
STANDARD OIL OF INDIANA CO	27,000,000	20/02/2003	0.077770	4,302.00	4,302.00

When the user comes to post the income received (automatically or manually), OpenAIR Investments verifies that the income received by the custodian or fund manager is valid.

Field	Value
Portfolio	Balanced Portfolio
Asset Description	PHARMACIA CORP COM
Ex Date	01/02/2003
Expected Ex Date	14/02/2003
System Holding	14,500,000
Receipt Holding	14,500,000
Gross Income	1,863.87 USD
Charges	0.00 USD
Tax Withholding	0.00 USD
Tax Recoverable	0.00 USD
Net Income	1,863.87 USD

Field	Value
Actual Ex Date	14/02/2003
Ex Date	01/02/2003
Exchange Rate	0.520000
Ex Date Accounting Value	2,016.74 GBP
Actual Accounting Value	2,000.37 GBP
Currency Profit and Loss	16.37 GBP
Tax Withholding Value	0.00 GBP
Tax Recoverable Value	0.00 GBP













It then lists any under or over payments and any income due but not received. All income is calculated in the local currency of the stock and an exchange rate is applied to it to get the accounting currency equivalent.

At the end of each period the income due but not received can be revalued at the correct exchange rate so the accounting figures are correct. Tax Recoverable is treated in a similar way in OpenAIR Investments.

# Reporting



Industry leading report writers can be used to develop user specific reports. However, OpenAIR Investments has a useful list of standard reports and views:

-  Book Cost Reconciliation
-  Cash Statement (actual and forecasted)
-  Income History
-  Income Received Statement
-  Outstanding Trades
-  Outstanding Income
-  Outstanding Tax Recoverable
-  Tax Recovered Statement
-  Trade History
-  Trade Listing
-  Valuation
-  All have a summary, as well as a detail view

Valuation Detail								
List by Template	Market Sector Group/Market Sector			Run for			American Balanced	
Accountancy Currency	US Dollar			Effective Date			31/03/2001	
Description	Trade Currency	Holding	Average Price	Book Cost	Market Price	Market Value	Unrealised Market profit/loss	Unrealised Currency profit/loss
			Trade	Trade Accounting	Trade	Trade Accounting	Trade Accounting	Accounting
UK Equities								
IT Hardware								
BHP Limited	AUD	258,300.00	21.000000	5,382,300.00 2,284,507.64	19.290000	4,944,027.00 1,715,722.86	-438,273.00 -152,093.63	-416,691.15
KJ UK Stock	GBP	256,300.00	2,365400	606,252.02 606,252.02	100.940000	25,870,922.00 25,870,922.00	25,264,669.98 25,264,669.98	0.00
Total IT Hardware				2,890,759.66		27,586,644.86	25,112,576.35	-416,691.15
Total UK Equities				2,890,759.66		27,586,644.86	25,112,576.35	-416,691.15

All the reports can be run by scheme, fund manager or portfolio and in trade or accounting currencies. The valuation takes the user to an additional level where templates can be set up to design specific valuation layouts.

Copies of all reports are available from the Marketing Department or can be downloaded from the Euraplan website at [www.euraplan.co.uk](http://www.euraplan.co.uk).

# Foreign Exchange Comparison



The FX Comparison function compares rates used by third parties such as custodians to the WM-Reuters daily mid rate. The report quantifies the differences in the strong trade currency, shows sterling conversion and expresses the difference as a percentage.

Essentially, this facility provides the user with advice that lets them reach an informed decision over whether or not on average they are getting good or bad fx rates from their cash manager.

Stewart Carter of Euraplan explains the significance of the function:

*'This function is a natural addition to Euraplan's investment monitoring offerings. It is an area which is not transparent to the pension schemes, mainly due to the volume of transactions.'*

*For example, schemes of approximately £1.3 billion, with 3% overseas, can have approximately £400 million of foreign exchanges in a quarter. A scheme could be losing 1 basis point at a time; resulting in a loss of £160,000 per annum.'*

Portfolio:		Related Parties:		Bank Comparison						
Accounting Currency:	Banking							Start Date: 01/01/2001	End Date: 31/03/2001	
Trade date	Sell ISD	Buy ISD	Sell Amount	Buy Amount	Calculated FX Rate	Reuters MID FX Rate	Reuters Buy/Sell Amount	FX Rate Difference (Trade)	FX Rate Difference (Accounting)	FX Rate Difference (%)
<b>GBP</b>										
20/03/2001	GBP	GBP	1,785,028.85	707,883.00	2.4628	2.0168	1,770,718.52	-14,310.33	-0.8018%	1.3817
Total			1,785,028.85	707,883.00					-0.8018%	
<b>CHF</b>										
20/03/2001	GBP	CHF	2,428.82	8,401.80	2.2270	2.2813	5,248.29	5422	24.50	1.0144
20/03/2001	GBP	CHF	918.23	3,024.80	2.2259	2.2813	2,261.80	29.31	8.23	1.0195
20/03/2001	GBP	CHF	2,188.83	4,882.80	2.2321	2.2813	4,812.21	-69.59	-22.18	1.0127
Total			5,525.88	12,289.40					68.55	
<b>EUR</b>										
04/03/2001	GBP	EUR	80,475.53	12,426.77	0.84078	0.9228	99,829.57	45484	206.29	0.5810
30/03/2001	GBP	EUR	186,845.08	277,822.08	0.88888	0.89480	181,822.18	1,231.30	803.88	0.8746
11/03/2001	EUR	GBP	435,515.19	294,739.02	0.85588	0.92133	298,277.19	1,517.37	1,018.96	0.5370
17/03/2001	EUR	GBP	881,814.84	421,821.68	0.89927	0.98888	401,823.84	307.88	332.82	0.2713
21/03/2001	GBP	EUR	43.18	85.23	0.85187	0.9233	40.28	3.30	8.07	0.2311
21/03/2001	EUR	GBP	946,247.05	400,541.05	0.95200	0.92228	400,505.46	136.25	68.41	0.2117
21/03/2001	EUR	GBP	178,432.46	77,112.18	0.88128	0.92387	77,179.54	98.38	40.88	0.2880
20/03/2001	EUR	GBP	2,285,488.24	1,289,841.02	0.95888	0.98888	1,280,288.48	5148.32	248.08	0.2379
20/03/2001	EUR	GBP	71,100.99	47,231.07	0.95408	0.95953	48,808.28	102.89	218.08	0.7880
20/03/2001	GBP	EUR	587,285.48	882,270.73	0.85848	0.92337	881,848.88	5,817.81	3,087.81	1.8882
Total			4,811,995.25	2,983,409.07					5,074.42	
<b>HKD</b>										
27/03/2001	HKD	GBP	1,574,088.34	12,4811.25	12.81228	12.79558	1,595,888.57	-12,667.21	-1012.70	0.8127
Total			1,574,088.34	12,4811.25					-1012.70	
<b>USD</b>										
04/03/2001	USD	GBP	144,285.54	69,744.04	1.80748	1.81138	144,579.82	-293.88	-280.58	0.2335
04/03/2001	USD	GBP	4.88	1.00	1.88738	1.88838	4.78	0.81	0.81	0.2138
14/03/2001	GBP	USD	243,817.28	900,887.14	1.80488	1.88078	900,100.38	-1,100.72	-741.58	0.3844
20/03/2001	GBP	USD	1,289,688.87	2,821,882.41	1.88888	1.88508	2,820,784.43	1,289.81	194.43	0.2822

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# Automated Reconciliation



A large number of pensions schemes appoint global custodians and then are faced with manually reconciling between the custodian and their manager. This has been highlighted to Euraplan as being too time consuming.

Therefore, OpenAIR Investments now has a function which will automatically reconcile between the two parties.

The Automatic Reconciliation checks the holding, book cost, market value and accrued interest between the data that is held in OpenAIR Investments and a file.

Most of our clients input trades, income and cash from the custodian's records and then receive the automatic reconciliation file from their fund managers. OpenAIR Investments then displays any differences *at a touch of a button!*

The screenshot shows a software window titled 'Automated Reconciliations'. It has a menu bar with options: 1 Parameters, 2 Summary, 3 Holding, 4 Book Cost, 5 Market Value, and 6 Accrued Interest. Below the menu bar, there are two tables. The first table is for 'Accounting Currency' and the second is for 'Trade Currency'. Both tables have columns for Asset Ref., Description, OpenAIR amount, 3rd Party amount, and Difference. The data in both tables is identical, showing three rows of financial data with differences.

Asset Ref.	Description	OpenAIR amount	3rd Party amount	Difference
0258304	GKN PLC ORD 50P	0.00	57,596.00	57,596.00
0924597	3I GROUP 5.75% MTN 3/12/2003	0.00	1,036,890.00	1,036,890.00
3064690	GKN PLC ORD GBP0.50	57,596.00	0.00	-57,596.00

Asset Ref.	Description	Ccy	OpenAIR amount	3rd Party amount	Difference
0258304	GKN PLC ORD 50P	GBP	0.00	57,596.00	57,596.00
0924597	3I GROUP 5.75% MTN 3/12/2003	GBP	0.00	1,036,890.00	1,036,890.00
3064690	GKN PLC ORD GBP0.50	GBP	57,596.00	0.00	-57,596.00
4554451	FOR&COL EMERG MKTS TAIWAI	USD	0.00	960,000.00	960,000.00

The user can also set up variation limits on each reconciliation type i.e. holding and fund manager.

Therefore, if the market values never match a percentage variation can be taken into account when the reconciliation is run.



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## Period End



This module performs two functions in OpenAIR Investments; it closes down a reconciled period and it creates the investment accounting journals.

Once a reconciled period is shut down you will be able to back-date postings but they will be reported in the current period.

The accounting journals are tailored to your individual chart of accounts, and then can be downloaded straight into OpenAIR Accounts.

OpenAIR Investments can also interface with other accounting packages.

General Period End					
Scheme:	Common Investment Fund			Period Start Date	01/01/2005
Accounting Currency:	Sterling			Period End Date	31/01/2005
Default Accounts:	OpenAIR Accounts				
Account	Portfolio	Market Sector	Date	Value	
UK UK FIXED INTEREST INCOME					
Balanced Portfolio		UK PUBLIC FIXED INTEREST	Account Asset Bought (settled)	26,726.20	DR
Balanced Portfolio		UK PUBLIC FIXED INTEREST	Account Asset Sold (settled)	7,058.00	CR
Balanced Portfolio		UK PUBLIC FIXED INTEREST	Gross Income Received	86,835.80	CR
Balanced Portfolio		UK PRIVATE FIXED INTEREST	Gross Income Received	9,079.00	CR
				<b>84,126.80</b>	<b>C</b>
UK US FIXED INTEREST INCOME					
Balanced Portfolio		US PUBLIC FIXED INTEREST	Account Asset Bought (settled)	33,283.68	DR
Balanced Portfolio		US PUBLIC FIXED INTEREST	Account Asset Sold (settled)	69,203.71	CR
Balanced Portfolio		US PUBLIC FIXED INTEREST	Gross Income Received	186,426.47	CR
				<b>280,906.54</b>	<b>C</b>
UK F USA US FX INTEREST					
Balanced Portfolio		US PUBLIC FIXED INTEREST	Cost of purchase (settled)	7,786,046.63	DR
Balanced Portfolio		US PUBLIC FIXED INTEREST	Proceeds of sales (settled)	3,367,489.64	CR
				<b>50,140.81</b>	<b>C</b>
UK UK EQUITIES INCOME					
Balanced Portfolio		UK EQUITIES	Gross Income Received	26,736.04	CR
Balanced Portfolio		UK EQUITIES	Income Due But Not Received	62,079.60	CR
Balanced Portfolio		UK EQUITIES	Withholding Tax Paid	2,671.00	DR
Balanced Portfolio		UK EQUITIES	Withholding Tax Payable	6,297.06	DR

Before a period can be posted into the account's package all activity for that period must be assigned to account combinations, also a period end cannot be reversed or amended. This retains the audit trail.

In OpenAIR Accounts, you will then be able to run your trial balance and your investment reports immediately, as all the accounts used for the investment journals are mapped into the correct reports



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# Transaction Value Analysis



Inalytics and Euraplan have a new working relationship to enhance the effectiveness with which pension funds manage their transaction costs.

*'The impact of transaction costs on pension funds' assets and by extension on fund growth has suddenly become highly topical following the publication of the Myners report. We have entered a working partnership with Euraplan to provide pension funds with a practical solution to this complex challenge.'*

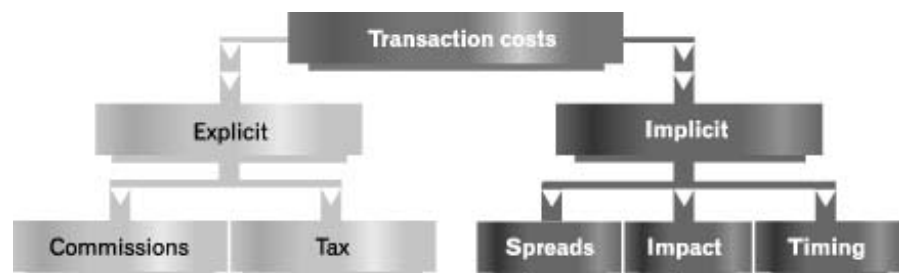
Rick Di Mascio, Chief Executive, Inalytics

The new transaction cost analysis service, branded TVA, is available to all OpenAIR Investments clients. Files created in OpenAIR Investments, are sent to Inalytics, who then send a TVA report back to the user.

The service captures all aspects of transaction costs and provides the analysis in clear and concise reports, with the ability to analyse costs by asset class, fund manager and broker.

Transaction costs are a significant and largely hidden charge on investment performance. TVA meets the needs of pension funds for complete clarity and certainty in the calculation of transaction costs.

Transaction costs are not just commissions but comprise several items, many of which are not transparent. The components are interrelated, as the following model illustrates.



*'Transaction costs are an important cost to pension funds. For trustees to fulfil their duty to act in the best interests of their beneficiaries, trustees must ensure that these costs are properly managed'*

Paul Myners,

Myners Report, 6 March 2001

TVA