ASSET LEVEL INDEX

Further improving transparency of the non-listed real estate industry

INREV
April 2019

Vitaliy Tonenchuk
Senior Research and Analytics Manager
Contents

• How it started
• How big the index will be
• How you can use the Asset Level Index
• Where we are now
• What we are asking for
• How to provide data
• How to join
HOW IT STARTED

Request from the membership to improve transparency and accessibility of data
The journey began in 2015…

2015
Summer
Deka and Deutsche Asset Management, members of both INREV and BVI approached INREV to discuss requirements for a comprehensive set of indices to measure the performance of real estate assets.

2016
Spring
At the INREV Annual Conference 2016 INREV announced that it would commence on a proof of concept to test the concept and viability of developing an asset level performance index.

2017
Spring
At the INREV Annual Conference 2017 INREV gave a presentation and made a call for signed commitments to the project.

2018
Autumn
Signed commitments exceeded targets with 32 companies signing.

2019
April 2019
Launch during INREV Annual Conference with more than 7000 assets worth more than EUR 150 bn.

2015-2019
Historical data collection and development of IT infrastructure.

2018-2019
A prototype-led selection process was carried out to choose an IT company to develop the system for the Asset Level Index.

2019
Autumn
The initiative rapidly gained traction and a focus group of c. 30 members across Europe and NCREIF was formed.

2016
Spring
INREV, together with the focus group and performance measurement committee embarked on a proof of concept for the Asset Level Index.

2018
H2
INREV, together with the focus group and performance measurement committee embarked on a proof of concept for the Asset Level Index.
Why INREV?

<table>
<thead>
<tr>
<th>Non-profit and member driven initiative</th>
<th>15 years experience with data collection and index production</th>
<th>Collaboration and support from NCREIF and ANREV to expand globally</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adopts the technology for data collection and portfolio and market analysis</td>
<td>Newest data integrity and security technology / measures implemented</td>
<td>32 leading fund managers and investors already support</td>
</tr>
</tbody>
</table>
Members actively worked in focus groups

INREV members and NCREIF contributed their knowledge, expertise and provide governance for the project
Backed by 29 leading global managers and 3 investors
HOW BIG THE INDEX WILL BE

Substantial coverage from day one
Critical mass committed and collected

Delivered (April 1, 2019)

Committed

European funds

European vehicles

All European funds

All European vehicles

All vehicles*

€ billion

1000

750

400

350

200

165

150

Founding members commitment

Founding members potential

Potential

Founding members global potential
Exceed the size of the fund level index by 2020

Market value, billion €

Value of assets founding members
Value of assets new participants
Number of assets

<table>
<thead>
<tr>
<th>Year</th>
<th>Value of assets founding members</th>
<th>Value of assets new participants</th>
<th>Number of assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>150</td>
<td>7,130</td>
<td>40</td>
</tr>
<tr>
<td>2019</td>
<td>180</td>
<td>11,000</td>
<td>60</td>
</tr>
<tr>
<td>2020</td>
<td>200</td>
<td>13,000</td>
<td>80</td>
</tr>
<tr>
<td>2021</td>
<td>220</td>
<td>15,000</td>
<td>100</td>
</tr>
<tr>
<td>2022</td>
<td>240</td>
<td>17,000</td>
<td>120</td>
</tr>
<tr>
<td>2023</td>
<td>260</td>
<td>19,000</td>
<td></td>
</tr>
</tbody>
</table>
Launching with pan-European coverage

* As at December 2018

Country Allocation (% of total value) *
- 28.1% United Kingdom
- 22.3% Netherlands
- 14.9% Germany
- 11.7% France
- 23.1% Other

Sector Allocation (% of total value) *
- 30.5% Office
- 26.4% Retail
- 20.6% Industrial / logistics
- 17.7% Residential
- 4.7% Other

* As of the latest period
HOW YOU CAN USE THE ASSET LEVEL INDEX

Asset performance and market comparison
Main goals

Asset Level Index

Comprehensive measures of performance of real estate assets across Europe

Create your own customised indices with the online analysis tool and compare

Formulate strategy and compare it to a market index

Get deeper insights into drivers of your vehicle performance

Improve industry transparency and data accessibility
Data-driven investment decisions

Risk Management Framework

- Asset allocation
- Investment strategy
- Portfolio construction
- Performance measurement
- Portfolio monitoring
What you get

- Market analysis tool
- Portfolio analysis tool
- Portfolio vs Market comparison tool
- Data Input tool
- Asset level performance
- Quarterly report

Note: data is not yet approved by INREV
Portfolio and asset level analysis
Portfolio analysis and market comparison
Asset level performance reporting

### Asset 1
Street 1 100, Apeldoorn, 7395 LH, Netherlands

<table>
<thead>
<tr>
<th>Asset Type</th>
<th>Asset Sub-Type</th>
<th>Manager / Direct Investor</th>
<th>Vehicle / Fund</th>
<th>Ownership Share</th>
<th>Ownership Type</th>
<th>Owner Occupied</th>
<th>Unit of Area Measurement</th>
<th>Net Leasable Area</th>
<th>Number of Units in Residential Asset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>Private Rental</td>
<td>Lion Capital</td>
<td>Diversified Fund</td>
<td>100.0%</td>
<td>Frankhold</td>
<td>No</td>
<td>SqM</td>
<td>713.66</td>
<td>10</td>
</tr>
</tbody>
</table>

#### Acquisition Data
- Date: 15 December 2017
- Acquisition price: n/a
- Latest market value: 1,432,584.48 EUR

#### Performance
- **Return of Asset**
  - Value of Asset (million EUR)
  - Return of Asset

#### Periods
<table>
<thead>
<tr>
<th>Period</th>
<th>Reporting Frequency</th>
<th>Asset Life Cycle</th>
<th>Occupancy Rate</th>
<th>Ending Market Value</th>
<th>NOI</th>
<th>Income Return</th>
<th>Capital Return</th>
<th>Total Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017 Q4</td>
<td>Quarterly</td>
<td>Standing investment/operating</td>
<td>100%</td>
<td>1,432,564 EUR</td>
<td>934.06 EUR</td>
<td>0.73%</td>
<td>20.78%</td>
<td>27.03%</td>
</tr>
<tr>
<td>2017 Q3</td>
<td>Quarterly</td>
<td>Standing investment/operating</td>
<td>100%</td>
<td>1,130,000 EUR</td>
<td>111,922.16EUR</td>
<td>1.01%</td>
<td>2.36%</td>
<td>3.66%</td>
</tr>
<tr>
<td>2017 Q2</td>
<td>Quarterly</td>
<td>Standing investment/operating</td>
<td>100%</td>
<td>1,101,999 EUR</td>
<td>12,268.63 EUR</td>
<td>1.13%</td>
<td>2.13%</td>
<td>3.28%</td>
</tr>
<tr>
<td>2017 Q1</td>
<td>Quarterly</td>
<td>Standing investment/operating</td>
<td>91%</td>
<td>1,078,000 EUR</td>
<td>10,996.45 EUR</td>
<td>1.04%</td>
<td>1.79%</td>
<td>2.84%</td>
</tr>
</tbody>
</table>
WHERE WE ARE NOW

Launch at 2019 Annual Conference
Five years of annual...

- **2014**
  - Income return: 5%
  - Capital growth: 5%
  - Total return: 10.8%

- **2015**
  - Income return: 5%
  - Capital growth: 6%
  - Total return: 11.1%

- **2016**
  - Income return: 4%
  - Capital growth: 3%
  - Total return: 7.0%

- **2017**
  - Income return: 4%
  - Capital growth: 6%
  - Total return: 10.0%

- **2018**
  - Income return: 3%
  - Capital growth: 7%
  - Total return: 10.2%

* In local currency
…and quarterly data from launch

<table>
<thead>
<tr>
<th>Year</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>10.8%</td>
<td>11.3%</td>
<td>11.4%</td>
<td>10.1%</td>
</tr>
<tr>
<td>2016</td>
<td>10.1%</td>
<td>8.8%</td>
<td>7.3%</td>
<td>6.9%</td>
</tr>
<tr>
<td>2017</td>
<td>7.9%</td>
<td>8.4%</td>
<td>9.8%</td>
<td>10.0%</td>
</tr>
<tr>
<td>2018</td>
<td>10.0%</td>
<td>10.0%</td>
<td>10.7%</td>
<td>11.0%</td>
</tr>
</tbody>
</table>

* In local currency, quarterly annualised
Evenly spread across Europe

Index composition by country

Note: data is not yet audited/approved by INREV
… and sectors

Index composition by sector

Note: data is not yet audited/approved by INREV
Country and city level performance

United Kingdom
- 25%

Germany
- 25%

Netherlands
- 25%

* In local currency
Sector comparison

* In local currency
Portfolio analysis tool

Note: data is not yet audited/approved by INREV
Comprehensive analytical tools and reports
Detailed statistics for each selection

### My Portfolio

**147 ASSETS | 4 VEHICLES**

<table>
<thead>
<tr>
<th>Performance</th>
<th>Country Allocation</th>
<th>Sector Allocation</th>
<th>Detailed Statistics</th>
<th>Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MY PORTFOLIO</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total return %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital return %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income return %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of assets</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total market value (million EUR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total NOI (million EUR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total CAPEX (million EUR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total rental income (million EUR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total net leasable area (SqM)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avg. Occupancy Rate %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| INDEX VALUE |                   |                     |                     |           |
| Total returns |                |                   |                     |           |
| Capital returns |             |                   |                     |           |
| Income returns |               |                   |                     |           |

**Note:** Index values are calculated starting at 100 in 2012 Q2.
What’s next?

- 2019: Further promotion to get new participants
- 2020: Expand coverage to make this index even more relevant and valuable
- 2021: Investor and fund manager data sharing, Attribution and reconciliation analysis tool, Global Asset Level Index
HOW TO PROVIDE DATA

Launch at 2019 Annual Conference
Data input tool launched in June
Simple validation and sign off process
Asset performance analysis
WHAT WE ASK FOR

Join this industry initiative
Join now for 100% discount on year 1 fee

First year – 100% discount to data contributing investors and managers

EUR 7,500 annual fee*

Historical data starting from Q4 2013

3 years of data going forwards

Non-data contributing investors pay an annual fee of EUR 15,000

*applies to data contributing managers and investors
Join the club
Here to help

**Henri Vuong**  
Director of Research and Market Information  
tel: +31 (0)20 235 8614  
henri.vuong@inrev.org

**Vitaliy Tonenchuk**  
Senior Research and Analytics Manager  
tel: +31 (0)20 235 8622  
vitaliy.tonenchuk@inrev.org

**Edgar Orlovskis**  
Research and Analytics Associate  
tel: +31 (0)20 235 8624  
edgar.orlovskis@inrev.org

**Ivaylo Stoyanov**  
Research and Data Analyst  
tel: +31 (0)20 235 8606  
ivaylo.stoyanov@inrev.org

**Jose Monsalve**  
Research and Analytics Analyst  
tel: +31 (0) 20 235 8623  
jose.monsalve@inrev.org

**Connor van Leeuwen**  
Research and Analytics Analyst  
tel: +31 (0)20 235 8619  
connor.vanleeuwen@inrev.org