FORM 6 - K **SECURITIES AND EXCHANGE COMMISSION**

Washington, DC 20549

Report of Foreign Private Issuer Pursuant to Rule 13a - 16 or 15d - 16 under the Securities Exchange Act of 1934

For the month of January 2010

Commission File Number 001-33159

AERCAP HOLDINGS N.V.

(Translation of Registrant's Name into English)

Stationsplein 965, 1117 CE Schiphol Airport, The Netherlands, +31-20-655-9655 (Address of Principal Executive Office)
Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.
Form 20-F ⊠ Form 40-F □
Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):
Note: Regulation S-T Rule 101(b)(1) only permits the submission in paper of a Form 6-K if submitted solely to provide an attached annual report to security holders.
Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7)):
Indicate by check mark whether the registrant by furnishing the information contained in this form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Act of 1934.
Yes □ No ⊠
If "Yes" is marked, indicated below the file number assigned to the registrant in connection with Rule 12g3-2(b): 82 — N/A
Other Events
On January 12, 2010, AerCap Holdings N.V. released a summary of its completed transactions during the fourth quarter of 2009.
This form 6-K is incorporated by reference into the Company's form F-3 registration statement file no. 333-155194 and related prospectus, as such registration statement and prospectus may be amended from time to time, and is incorporated by reference into the Company's form S-8 registration statement file no. 333-154416, as such registration statement may be amended from time to time.
Exhibits
99.1 AerCap Holdings N.V. Press Release
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SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

AERCAP HOLDINGS N.V.

By: /s/ Klaus Heinemann Name: Klaus Heinemann Title: Authorized Signatory 3

EXHIBIT INDEX

99.1 AerCap Holdings N.V. Press Release.

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PRESS RELEASE

AerCap Holdings N.V. Announces Fourth Quarter 2009 Transactions

Amsterdam, The Netherlands; January 12, 2010 - AerCap Holdings N.V. ("AerCap," "the Company") (NYSE: AER) today announced the completion of the following transactions during the fourth quarter 2009:

- · Signed new lease agreements for 15 aircraft and executed letters of intent for six aircraft leases,
- · Delivered 14 aircraft and nine engines under lease agreements,
- · Purchased ten aircraft and nine engines, and executed an agreement for the purchase of six aircraft and a letter of intent for the purchase of three aircraft,
- Sold eight aircraft and two engines, and executed an agreement for the sale of three aircraft and a letter of intent for the sale of one aircraft,
- Disassembled eight aircraft and eight engines, and
- · Signed agreements for \$484 million of debt facilities (previously disclosed).

	Fourth Quarter 2009			Full Year 2009		
Transaction Overview	Owned	Managed	Total	Owned	Managed	Total
Lease Agreements						
Aircraft (Contracts)	12	3	15	27	5	32
Aircraft (Letters of Intent)	3	3	6	6	3	9
Deliveries						
Aircraft	10	4	14	34	10	44
Engines	9	NA	9	50	NA	50
Purchases						
Aircraft (Closed)	10	NA	10	37	NA	37
Engines (Closed)	9	NA	9	23	NA	23
Aircraft (Contract Signed, to be						
Delivered)	6	NA	6	8	NA	8
Engines (Contract Signed, to be						
Delivered)	NA	NA	NA	1	NA	1
Aircraft (Letters of Intent)	3	NA	3	11	NA	11
Engines (Letters of Intent)	6	NA	6	6	NA	6
Sales						
Aircraft (Closed)	5	3	8	9	6	15
Engines (Closed)	2	NA	2	15	NA	15
Aircraft (Contract Signed, to be						
Delivered)	3	NA	3	3	NA	3
Aircraft (Letters of Intent)	1	NA	1	1	NA	1
		1				

AerCap's CEO Klaus Heinemann commented: "While the fourth quarter 2009 represented the completion of a very challenging year for the aviation and financial services industry, I am pleased to report that AerCap's operational performance was not significantly impacted. We successfully completed our ambitious new aircraft purchase program by adding ten aircraft to our portfolio during the fourth quarter alone. The continuing market improvements we observed since the second quarter of last year are also highlighted by the completion of eight aircraft sales during the fourth quarter.

Most importantly, AerCap effectively navigated 2009 without a single aircraft repossession, while existing clients in restructuring situations were starting to show signs of improvement. In addition, even among airlines outside Asia, the Middle East and Latin America, the month of December showed first signs of passenger and cargo volume growth and recovery. We are hopeful that the trend will continue, potentially leading airlines to cautiously add capacity throughout 2010."

Lease Activities: Contracts Signed for Fifteen Aircraft and Nine Engines

New Lease Agreements

AerCap signed 15 new lease agreements for aircraft in the fourth quarter 2009:

- Ten new Airbus A330s for Virgin Atlantic Airways (U.K.),
- · Two Boeing B737-300s for Webjet Linhas Aereas (Brazil),
- · One Boeing B737-300 for Boliviana de Aviacion (Bolivia),
- One Boeing B737-300 for P.T. Metro Batavia (Indonesia), and
- · One Airbus A321 for Onur Air (Turkey).

The average term of the ten lease agreements for new aircraft signed during the fourth quarter was 144.0 months. The average term of the lease agreements for used aircraft signed during the fourth quarter was 54.8 months. During the fourth quarter, AerCap also executed letters of intent (signed and deposit paid by lessee) for three new aircraft leases with an average lease term of 132 months and three used aircraft leases with an average lease term of 59.3 months.

AerCap also entered into nine engine lease agreements in the fourth quarter and delivered the engines to the lessees in the same period. Six of the leased engines were CFM-56, one was a CF6 engine, one was a PW4060 engine and one was a V2500 engine.

Deliveries

AerCap completed 14 aircraft deliveries in the fourth quarter under contracted lease agreements:

- Three new Airbus A330s for Aeroflot—Russian Airlines (Russia),
- · Three new Airbus A320s for TAP (Portugal),
- Two Boeing B737-300s for Webjet Linhas Aereas (Brazil),
- · One Boeing B737-300 and one Boeing B737-400 for P.T. Metro Batavia (Indonesia),
- One new Airbus A330 for P.T. Garuda Indonesia (Indonesia),
- · One new Airbus A320 for Air Arabia (United Arab Emirates),
- One new Airbus A319 for Mexicana (Mexico), and
- · One Boeing B737-300 for Boliviana de Aviacion (Bolivia).

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Purchase Activities: Ten Aircraft Acquired in the Fourth Quarter

During the fourth quarter 2009, AerCap acquired four new Airbus A330s, four new Airbus A320s and one new Airbus A319 under existing commitments with Airbus, and one used Airbus A320.

In addition to the completed purchase activities above, AerCap executed a purchase agreement for the acquisition of six new Airbus A330s (purchase and leaseback with Virgin Atlantic Airways) and a letter of intent for the acquisition of three new Airbus A320s.

AerCap expanded its engine pool with the acquisition of five CFM56, two JT8D, one V2500 and one PW4060 engine in the fourth quarter.

Sales Activities: Eight Aircraft Sold in the Fourth Quarter 2009

During the fourth quarter, AerCap closed sales transactions for five Airbus A320 from its owned portfolio, and two Boeing B737-300 and one McDonnell Douglas MD82 from its managed portfolio.

In addition to the completed sale transactions, AerCap executed an agreement for the sale of three Airbus A330s from its forward order and a letter of intent for the sale of one Airbus A320 from its owned portfolio.

AerCap also sold one CFM56 and one V2500 engine from its owned engine pool.

Disassembly: Eight Aircraft and Eight Engines Disassembled

In the fourth quarter, AerCap's subsidiary AeroTurbine disassembled two aircraft and four engines from its own inventory, and six aircraft and four engines for third parties.

Debt Facilities: \$484 Million of Facilities Signed in the Fourth Quarter

During the fourth quarter, AerCap signed agreements for three separate debt facilities totalling \$484 million. This brings the total debt facilities concluded by AerCap during 2009 to \$1.7 billion, and \$5.0 billion during the last two years.

Portfolio Summary

As of December 31, 2009, AerCap's portfolio consisted of 291 aircraft and 92 engines that were either owned, on order, under contract or letter of intent, or managed.

The information above includes transactions completed by AerCap and AeroTurbine, AerCap's subsidiary which focuses on engine leasing and trading, airframe and engine disassembly, part sales and MRO services.

About AerCap

AerCap is an integrated global aviation company with a leading market position in aircraft and engine leasing, trading and parts sales.

disassemblies through its certified repair stations. AerCap is headquartered in The Netherlands and has offices in Ireland, the United States, Singapore, China and the United Kingdom.

This press release may contain forward-looking statements that involve risks and uncertainties. In most cases, you can identify forward-looking statements by terminology such as "may", "should", "expects", "plans", "anticipates", "believes", "estimates", "predicts", "potential" or "continue" or the negative of such terms or similar terminology. Such forward-looking statements are not guarantees of future performance and involve significant assumptions, risks and uncertainties, and actual results may differ materially from those in the forward-looking statements.

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