

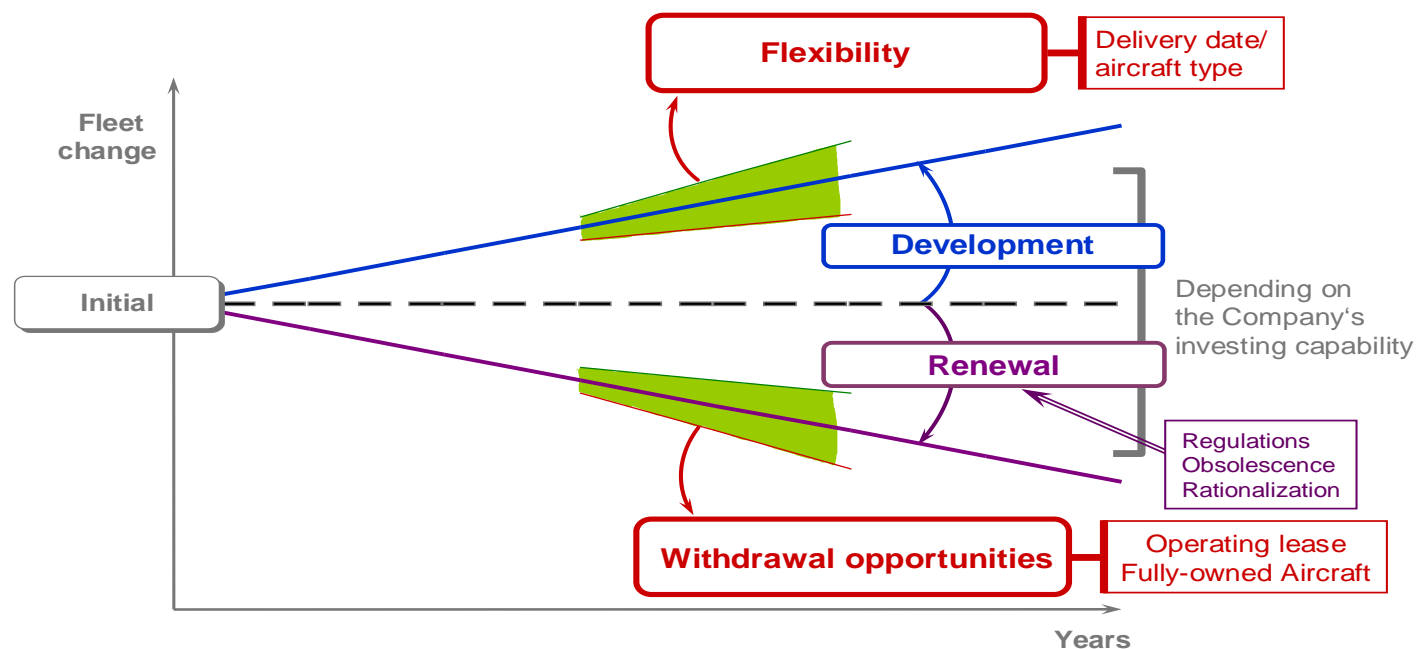
ACQUISITION AVION, ACHAT, LOCATION

1 RAPPELS : GESTION d'un PLAN DE FLOTTE

Définition du Fleet planning :

Le bon outil profitable, au bon moment, qui tient compte des évolutions possibles à court et moyen terme.

Fleet management at a glance



One of our efficient tools : Fleet management and its six core principles

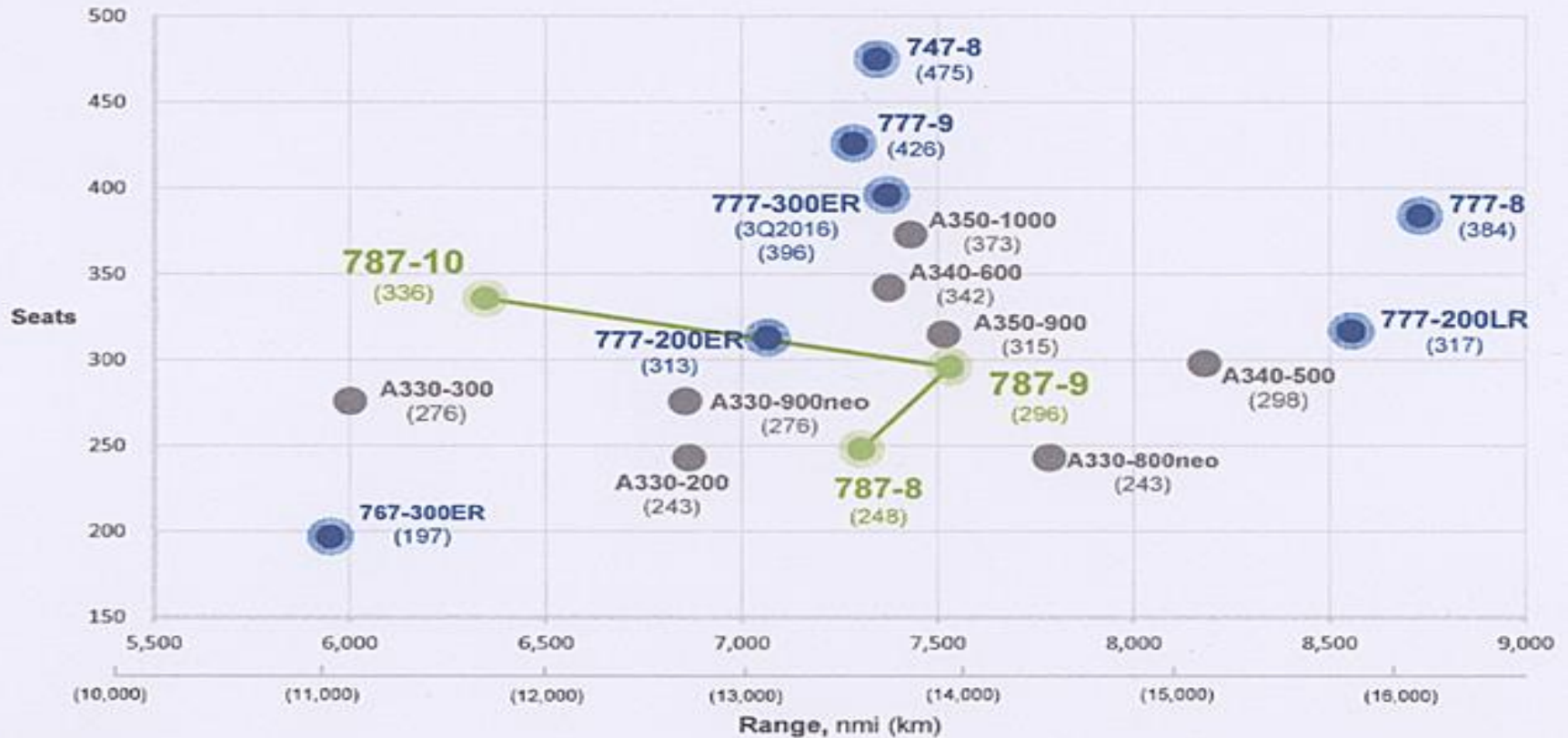
- **Simplicity**
 - Commonality, technical coherence, operational interchangeability
- **Flexibility**
 - Fleet financing: adjustment through flexibility devices
 - Financing: purchasing, finance lease, operating lease
- **Profitability**
 - Economies of scale, cost-effective fleet size
 - Efficiency analysis, DOC, profitability benchmarking
- **Modernity**
 - State of the art technology, fuel efficiency
 - Limitation of environmental impact
- **Credibility**
 - Leader status in choices
- **Reactivity**
 - Technical and contractual capacity to adjust the fleet in the face of external events

Lecture des Z Charts :

Mise en garde sur le « seat count » : **EXPLICATION : SHY ESHY**

787 family delivers broad capacity and capability

The 787 was designed to fly 777 routes



Standard Rules

787 Spec M.1

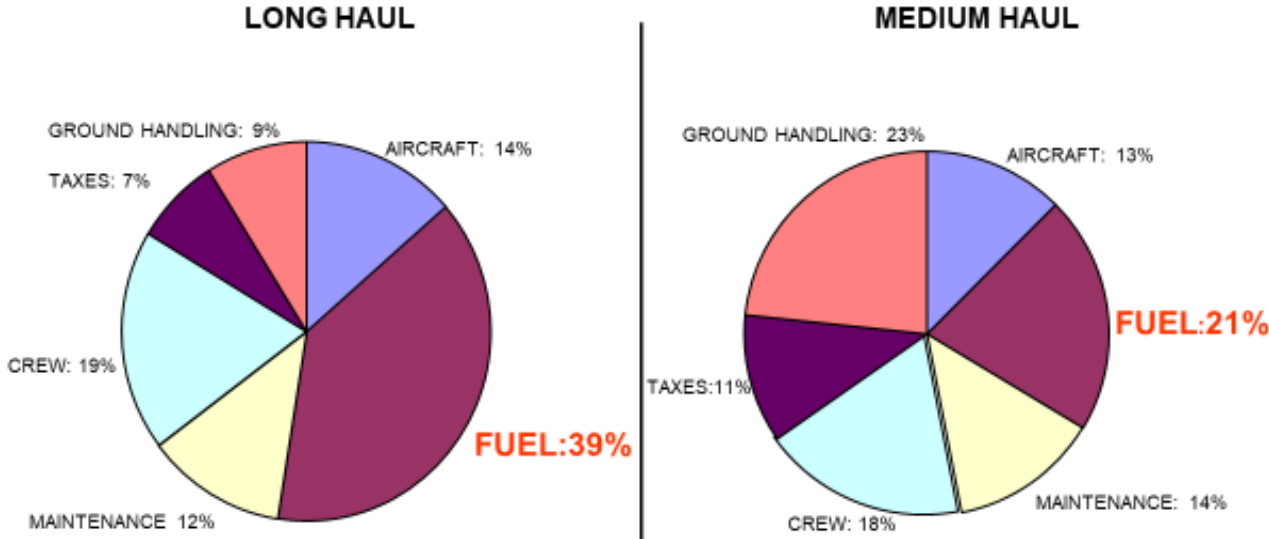
2 MODES D'EVALUATION DES PERFORMANCES ECONOMIQUES

Comparaison des TAROC , Distinction avec le Cash DOC

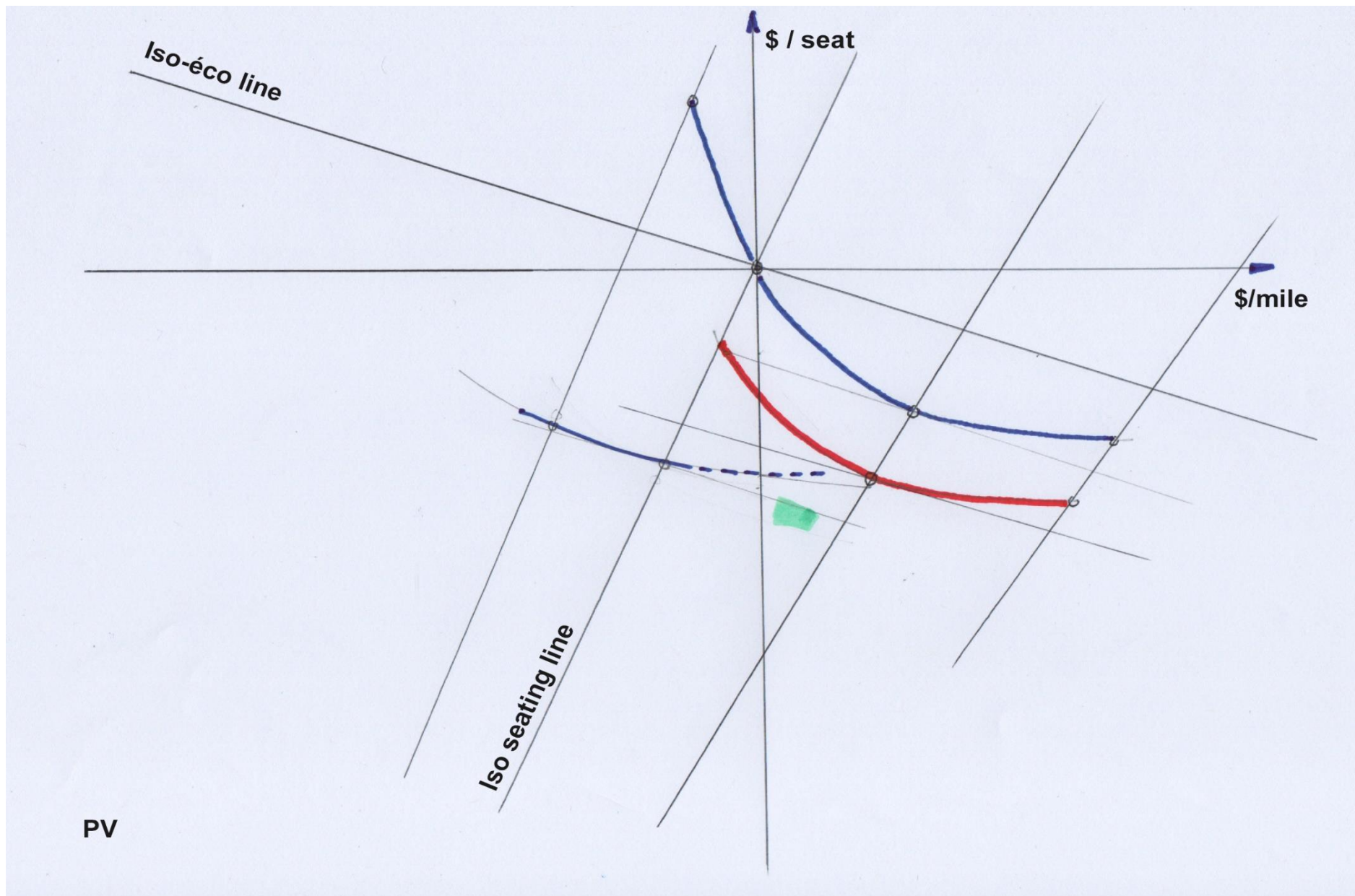
Si le CASH DOC est de la responsabilité du constructeur et du motoriste, le TAROC (*Total Aircraft Related Operating Cost*) est de la responsabilité de l'opérateur. **EXPLICATION**

Product Evaluation

Cost Breakdown



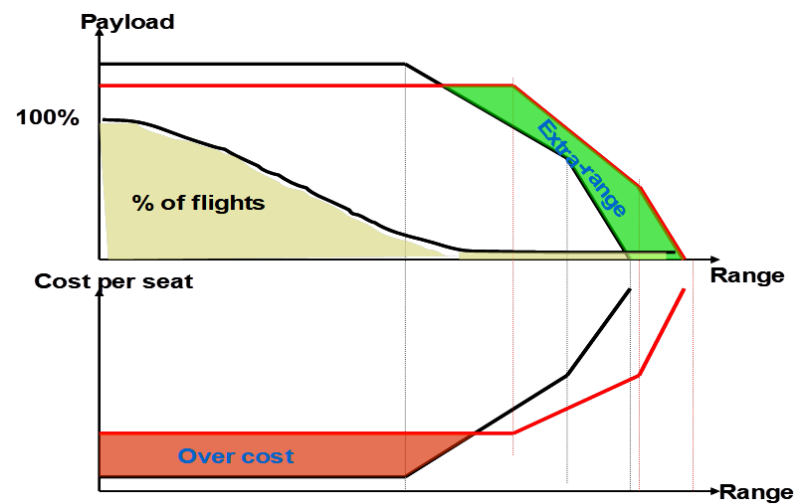
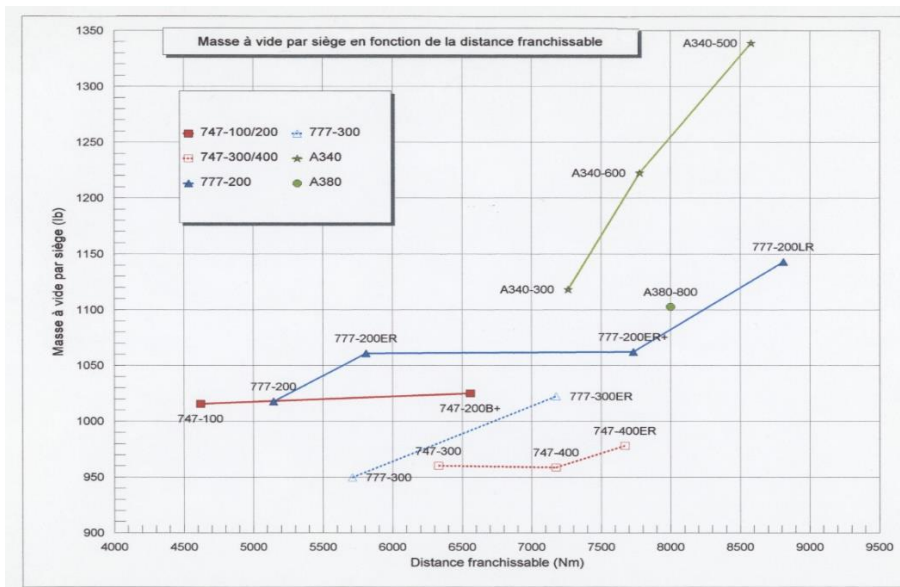
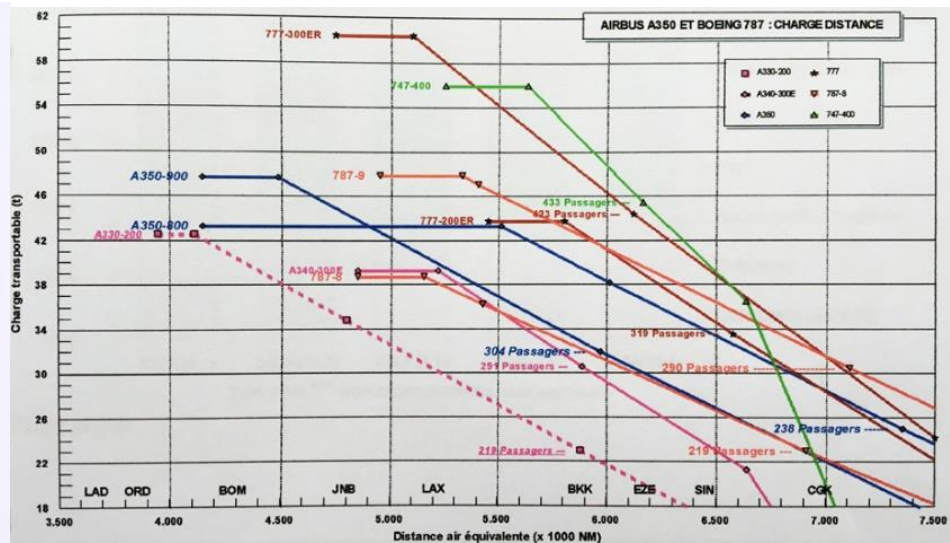
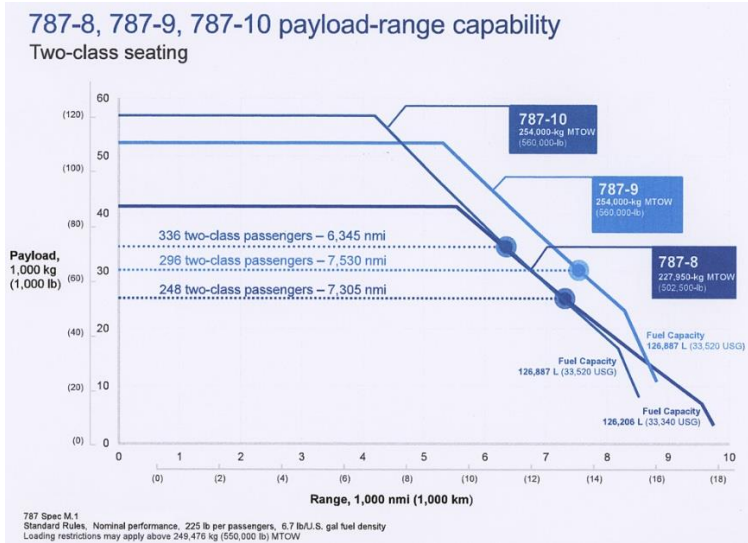
80 \$ / barrel



Exploitation de cette charte : **EXPLICATION** impact Rayon d'action et mutualisation des coûts de « famille »

3 PERFORMANCES OPERATIONNELLES

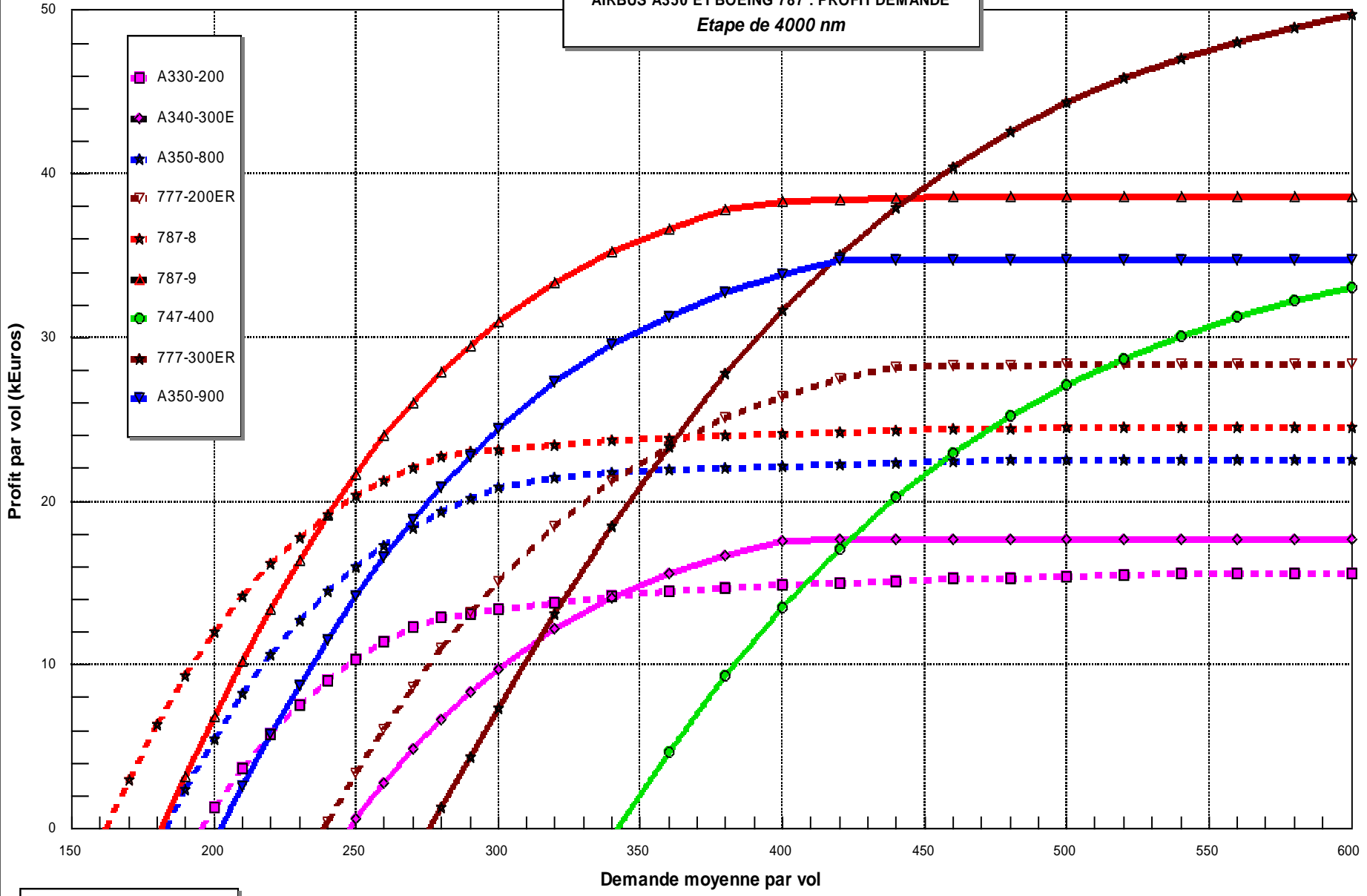
Lecture des chartes Payload Range



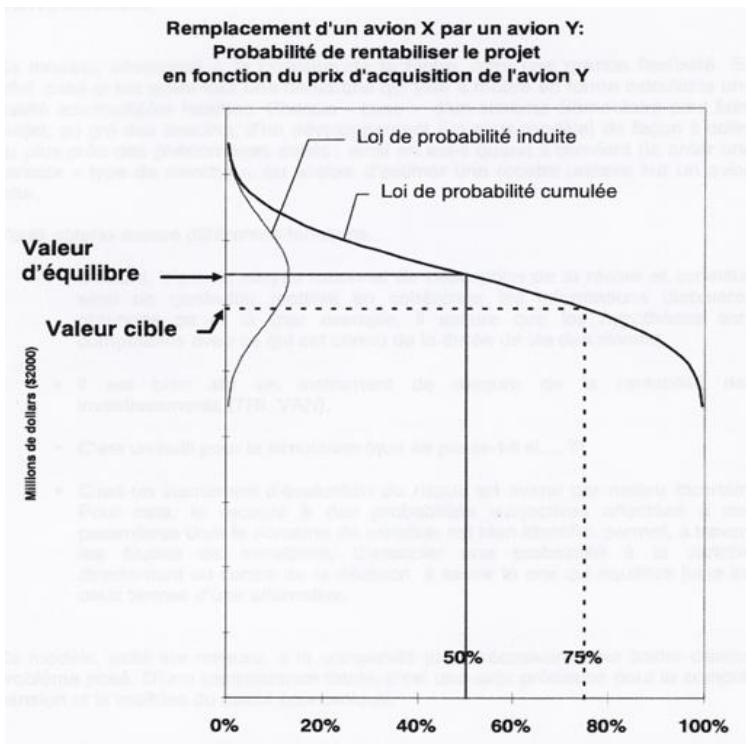
EXPLICATION

AIRBUS A350 ET BOEING 787 : PROFIT DEMANDE

Etape de 4000 nm

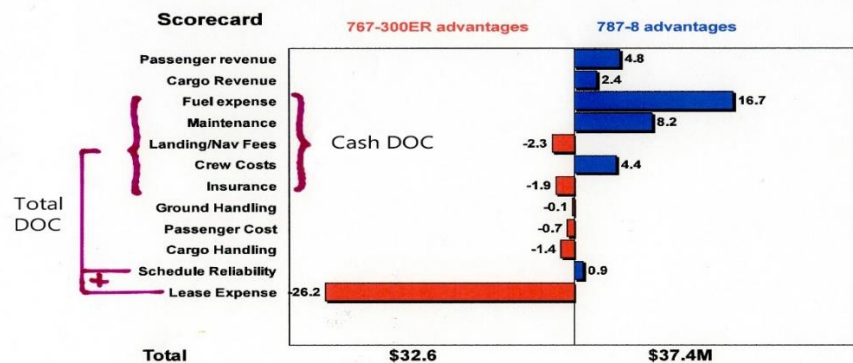


6 VALEUR ACCEPTABLE D'ACQUISITION, COMPOSANTES DU GROSS PRICE



EXPLICATION : +Facteurs d'instabilité (réglementation, coût carburant, sureté, social etc)

Value Analysis—Example



Constituants du Prix catalogue (*Gross price*)

Le coût de coque (Airframe et systèmes)

La motorisation

La customisation

SFE

BFE

Entertainment

« Valeurs optiques » versus réalité : construction du prix net avionneur : réconciliation GROSS/NET prices

EXPLICATION

Les coûts additionnels

Coût financier des acomptes

Effet des formules d'escalation

Les parités monétaires

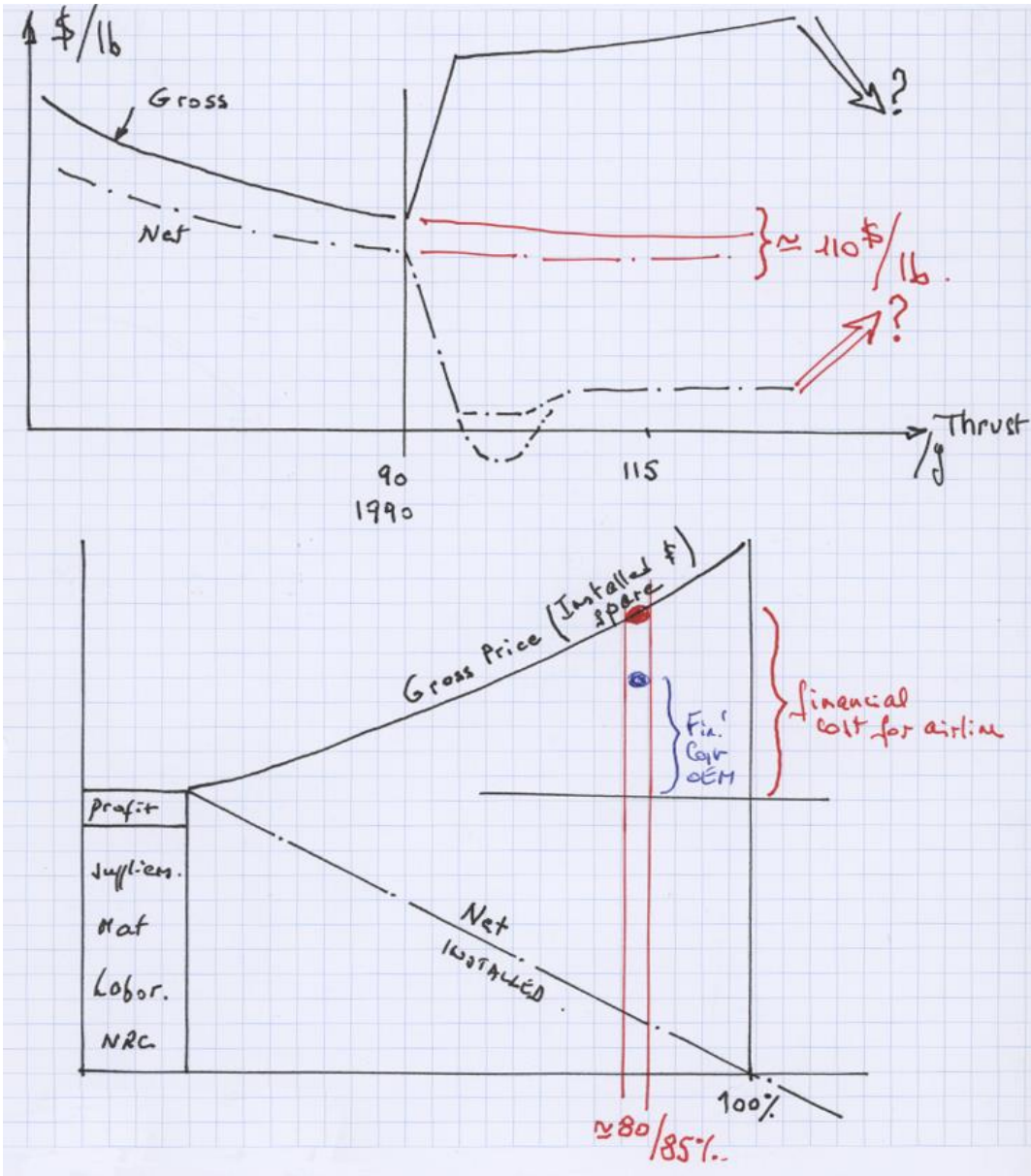
Coûts d'introduction d'une nouvelle flotte ou d'avions additionnels

Equipements spécifiques (Tests, Servitudes, formation dont simulateur de vol)

Coûts et cascades de qualification PNT (concept de *commun type rating* ou de CCQ)

Rechanges MEL, LRU, Shop

Le business model de la motorisation



EXPLICATION

6 GARANTIES DE PERFORMANCES

Opérationnelles

Energétiques

Economiques (Maintenance cost guarentee)

EXPLICATION

7 CORRECTION DE LA VALEUR NETTE COMPTABLE

Recomposition de la valeur effective des moteurs

EXPLICATION

8 IMPAIRMENT

Le mode de calcul croisé, interne et via appraisers

Conséquence sur les durées de dépréciation et sur le calcul du DOC

EXPLICATION

9 CONTRAT D'ACHAT

Spécification de référence, évolution entre la commande et la livraison

Echéancier de paiement, calcul des acomptes

Flexibilité de type et de calendrier

Firm orders, options, silent options

10 LOCATION OPERATIONNELLE

En annexe la liste des loueurs majeurs, flottes (nombre et valeurs) et commandes

Appréciation du loyer opérationnel « équivalent » : Lease rate factor : cf présentation FG

Directe ou Sale & Lease Back (impact ROCE)

Montant des loyers, durée, réserves

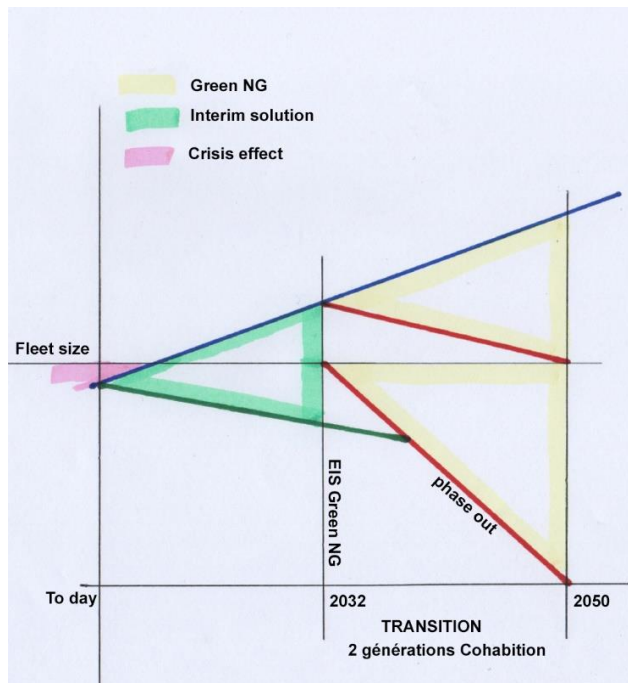
11 FINANCEMENT

Les modes de financement

Les Parités monétaires

12 LES ELEMENTS NOUVEAUX

Incertitudes concernant les avions du futur proche, technologie, réglementation, économie, énergie



EXPLICATION : gestion de cette transition au calendrier imprécis

Annexe

Rank	Manager	Total	% change since last year	Turboprop	Regional jet	Narrowbody	Widebody
1	*Gecas	1,168	↓ -2.9%	20	205	812	131
2	*Aercap	1,028	↓ -1.7%	-	14	767	247
3	Avolon	570	↑ 5.2%	-	-	451	119
4	BBAM	519	↓ -1.0%	-	2	385	132
5	SMBC Aviation Capital	505	↑ 15.6%	-	-	445	60
6	Nordic Aviation Capital	485	↓ -0.2%	286	191	8	-
7	Air Lease Corporation	444	↑ 15.9%	-	3	329	112
8	BOC Aviation	396	↑ 18.6%	-	-	319	77
9	ICBC Leasing	393	↓ 12.3%	-	14	339	40
10	Aviation Capital Group	342	↑ 11.8%	-	-	327	15
11	DAE Capital	337	↓ -3.7%	55	-	221	61
12	Castlelake	265	↑ 3.9%	16	19	184	46
13	Bocomm Leasing	258	↑ 10.7%	-	11	217	30
14	Aircastle	257	↓ -7.6%	-	7	223	27
15	CDB Aviation	239	↓ 8.1%	-	20	174	45
16	Carlyle Aviation Partners	228	↓ -8.1%	-	-	197	31
17	Orix Aviation	220	↑ 6.3%	-	-	186	34
18	Jackson Square Aviation	189	↓ 11.8%	-	-	167	22
18=	Macquarie Airfinance	189	↓ -1.0%	-	3	175	11
20	Goshawk	182	↓ -0.5%	-	1	164	17
21	Deucalion Aviation Limited	149	↑ 12.9%	-	-	125	24
22	Avmax	142	↑ 1.4%	60	70	10	2
23	China Aircraft Leasing Company	138	↑ 3.0%	-	-	124	14
24	AMCK Aviation	131	↑ 0.0%	-	-	125	6
25	CMB Financial Leasing	129	↑ 15.2%	-	5	105	19
25=	Standard Chartered Bank	129	↓ -2.3%	-	-	124	5
27	Falco	120	↓ -2.4%	16	104	-	-
28	Cargo Aircraft Management	111	↑ 6.7%	-	-	8	103
29	Fortress Transportation	108	↑ 11.3%	-	-	91	17
29=	Altavair Airfinance	108	↑ 16.1%	-	4	49	55
31	Chorus Aviation	104	↑ 14.3%	74	22	8	-
32	CCB Leasing	93	↑ 9.4%	-	-	80	13
33	JP Lease Products & Services	87	↑ 22.5%	-	-	66	21
33=	Aircraft Leasing & Management	87	↑ 0.0%	-	13	59	15
35	Merx Aviation	85	↑ 13.3%	-	-	77	8
36	ASL Aviation Group	83	↑ 59.6%	16	-	55	12
37	State Transport Leasing Company	78	↑ 4.0%	-	38	33	7
37=	Alafco	78	↑ 1.3%	-	-	67	11
39	FPG Amentum	75	↓ 8.7%	-	-	61	14
40	Aviator Capital Management	72	↓ -16.3%	-	3	53	16
41	Avia Capital Leasing Cyprus	70	↓ -12.5%	-	-	60	10
41=	Jetran International	70	↑ 11.1%	6	19	40	5
43	ABC Financial Leasing	68	↑ 9.7%	-	5	54	9
44	Genesis Aircraft Services	67	↑ 3.1%	-	-	67	-
45	Elit Aviation Capital	63	↓ -4.5%	63	-	-	-
46	Tokyo Century Leasing	62	↓ -29.5%	-	3	42	17
47	VEB Leasing	61	↓ -3.2%	1	35	10	15
48	GTLK Europe	60	↑ 0.0%	-	-	50	10
49	Wings Capital Partners	56	↑ 3.7%	-	-	54	2
49=	Sberbank Leasing	56	↑ 0.0%	-	20	30	6
Total		10,954	↑ 3.6%	613	831	7,817	1,693

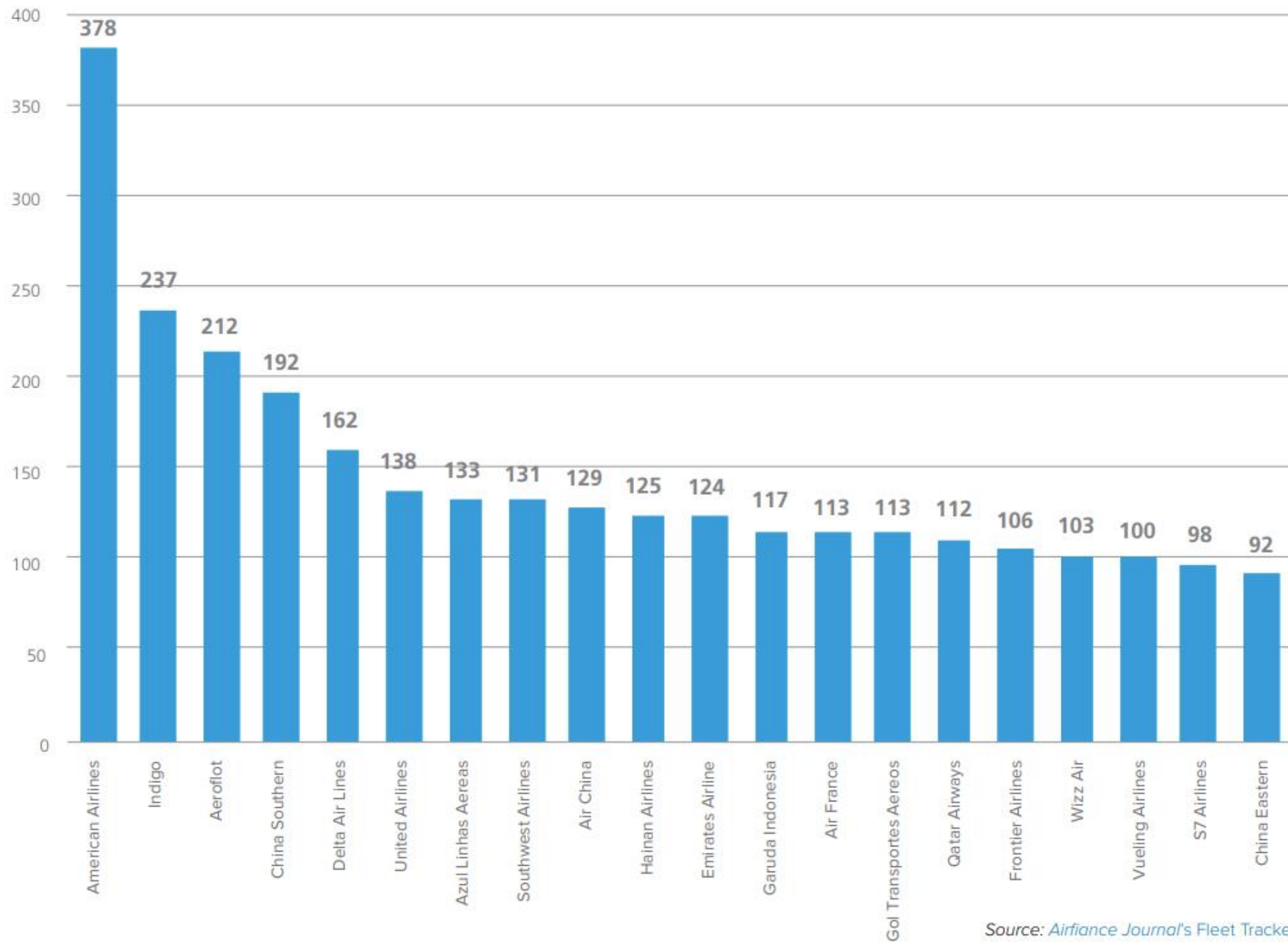
Top 50 managers by \$MV of fleet (\$m)

Rank	Manager	Total	% change since last year	Turboprop	Regional jet	Narrowbody	Widebody
1	*Aercap	\$27,569	↓ -3.6%	-	\$398	\$15,794	\$11,377
2	*Gecas	\$20,307	↑ 0.5%	\$169	\$868	\$14,449	\$4,822
3	SMBC Aviation Capital	\$18,954	↑ 17.0%	-	-	\$13,857	\$5,097
4	BBAM	\$18,528	↓ -4.7%	-	\$18	\$9,814	\$8,696
5	Avolon	\$18,291	↑ 5.5%	-	-	\$11,106	\$7,184
6	Air Lease Corporation	\$18,176	↑ 12.1%	-	\$27	\$9,778	\$8,370
7	BOC Aviation	\$15,966	↑ 21.1%	-	-	\$10,161	\$5,805
8	ICBC Leasing	\$13,738	↑ 12.2%	-	\$247	\$10,532	\$2,959
9	Aviation Capital Group	\$9,519	↑ 11.1%	-	-	\$8,487	\$1,032
10	Bocomm Leasing	\$8,829	↑ 14.3%	-	\$151	\$6,762	\$1,916
11	DAE Capital	\$8,622	↓ -5.1%	\$574	-	\$4,611	\$3,436
12	CDB Aviation	\$7,877	↑ 15.5%	-	\$239	\$5,513	\$2,126
13	Jackson Square Aviation	\$6,923	↑ 9.0%	-	-	\$5,361	\$1,562
14	Orix Aviation	\$6,240	↑ 7.0%	-	-	\$4,373	\$1,867
15	Goshawk	\$5,947	↓ -7.2%	-	\$12	\$4,506	\$1,429
16	Aircastle	\$4,844	↓ -7.3%	-	\$131	\$3,896	\$818
17	CMB Financial Leasing	\$4,682	↑ 16.1%	-	\$86	\$3,420	\$1,176
18	Nordic Aviation Capital	\$4,438	↓ -7.9%	\$2,097	\$2,186	\$155	-
19	Castlelake	\$4,235	↑ 7.0%	\$31	\$143	\$3,134	\$928
20	China Aircraft Leasing Company	\$4,148	↓ -0.1%	-	-	\$3,603	\$546
21	Standard Chartered Bank	\$3,712	↓ -9.1%	-	-	\$3,625	\$87
22	AMCK Aviation	\$3,483	↓ -4.6%	-	-	\$3,279	\$203
23	CCB Leasing	\$3,461	↑ 2.7%	-	-	\$2,500	\$961
24	Altavair Airfinance	\$3,313	↑ 17.9%	-	\$27	\$953	\$2,333
25	Macquarie Airfinance	\$3,263	↓ -5.7%	-	\$27	\$2,964	\$272
26	Aircraft Leasing & Management	\$3,250	↑ 0.3%	-	\$223	\$1,635	\$1,392
27	Alafco	\$3,025	↓ -5.3%	-	-	\$1,996	\$1,030
28	Deucalion Aviation Limited	\$2,836	↑ 29.4%	-	-	\$2,011	\$825
29	Carlyle Aviation Partners	\$2,717	↓ -13.9%	-	-	\$2,366	\$351
30	Tokyo Century Leasing	\$2,598	↑ 6.6%	-	\$34	\$1,104	\$1,460
31	ABC Financial Leasing	\$2,532	↑ 10.9%	-	\$84	\$1,736	\$712
32	FPG Amentum	\$2,368	↓ -5.5%	-	-	\$1,516	\$852
33	JP Lease Products & Services	\$2,221	↑ 18.2%	-	-	\$1,259	\$961
34	Amedeo Limited	\$2,219	↓ -14.8%	-	-	-	\$2,219
35	Merx Aviation	\$2,131	↑ 23.8%	-	-	\$1,624	\$507
36	IAFC	\$2,066	↑ 26.5%	-	-	\$934	\$1,133
37	Novus Aviation	\$1,815	↑ 32.3%	-	-	\$523	\$1,291
38	Seraph Aviation Management	\$1,686	↑ 30.1%	\$9	\$74	\$478	\$1,124
39	Avia Capital Leasing Cyprus	\$1,637	↑ 10.1%	-	-	\$1,543	\$95
40	GTLK Europe	\$1,624	↓ -8.6%	-	-	\$952	\$672
41	Minsheng Financial Leasing	\$1,479	↓ -0.6%	-	-	\$1,190	\$289
42	Wings Capital Partners	\$1,408	↓ -4.2%	-	-	\$1,257	\$151
43	Avic Leasing	\$1,364	↑ 22.6%	-	\$29	\$1,245	\$90
44	Everbright Financial Leasing	\$1,344	↑ 106.8%	-	\$18	\$1,185	\$142
45	GOAL Clients	\$1,343	↑ 4.4%	\$100	-	\$1,076	\$168
46	SPDB Financial Leasing	\$1,336	↑ 6.5%	-	\$65	\$1,057	\$214
47	Skyworks Leasing	\$1,335	↓ -12.8%	-	-	\$659	\$676
48	Sberbank Leasing	\$1,283	↓ -6.4%	-	\$198	\$850	\$235
49	VEB Leasing	\$1,278	↓ -12.1%	\$5	\$465	\$234	\$574
50	Chorus Aviation	\$1,235	↑ 10.0%	\$724	\$341	\$170	-
Total		\$293,196	↑ 5.0%	\$3,709	\$6,092	\$191,232	\$92,164

Top 50 lessors' orderbooks

Rank	Beneficial Owner	Total	Turboprop	*Regional Jet	Narrowbody	Widebody
1	Air Lease Corporation	340	-	-	277	63
2	Aercap	275	-	36	218	21
3	China Aircraft Leasing Company	274	-	30	244	-
4	Avolon	239	-	-	217	22
5	Gecas	235	-	-	219	16
6	SMBC Aviation Capital	222	-	-	222	-
7	Bocomm Leasing	136	-	-	136	-
8	ICBC Leasing	119	-	53	66	-
9	BOC Aviation	113	-	-	105	8
10	CDB Aviation	111	-	-	111	-
11	Ilyushin Finance Corporation	93	-	27	65	1
12	Avia Capital Services	85	-	-	85	-
13	Alafco	71	-	-	70	1
14	Nordic Aviation Capital	68	48	-	20	-
15	Aviation Capital Group	59	-	-	57	2
16	Macquarie Airfinance	51	-	-	51	-
17	China Huarong Financial Leasing	50	-	20	30	-
18	ABC Financial Leasing	45	-	-	45	-
19	Goshawk	40	-	-	40	-
20	Timaero Ireland	35	-	-	35	-
21	Everbright Financial Leasing	30	-	-	30	-
22	VEB Leasing	27	-	2	25	-
23	Aircastle	24	-	24	-	-
24	Jackson Square Aviation	23	-	-	23	-
25	Accipiter	20	-	-	20	-
25=	Lease Corporation International	20	-	-	20	-
27	777 Partners	19	-	-	19	-
28	Sberbank Leasing	14	-	-	14	-
28=	State Transport Leasing Company	14	-	14	-	-
28=	DAE Capital	14	-	-	14	-
31	Aerolease Aviation	10	-	10	-	-
32	Hong Kong Int. Av. Leasing	6	-	-	-	6
32=	Willis Lease Finance	6	-	6	-	-
34	SPDB Financial Leasing	5	-	-	5	-
34=	CIB Leasing	5	-	5	-	-
36	Middle East Leasing	4	-	-	4	-
37	Acia Aero	3	3	-	-	-
37=	Minsheng Financial Leasing	3	-	3	-	-
37=	CIAF Leasing	3	-	3	-	-
37=	GTLK Europe	3	-	-	3	-
41	Aerostar Leasing	2	2	-	-	-
42	Pearl Aircraft Corporation	1	-	1	-	-
42=	CMB Financial Leasing	1	-	-	1	-
	Total	2,918	53	234	2,491	140

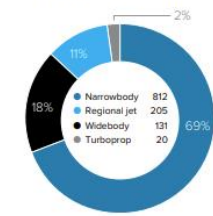
Figure 1: Biggest lessees by number of aircraft



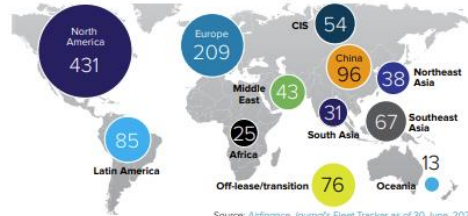
Source: Airfiance Journal's Fleet Tracker

1 GECAS

GECAS fleet by aircraft type

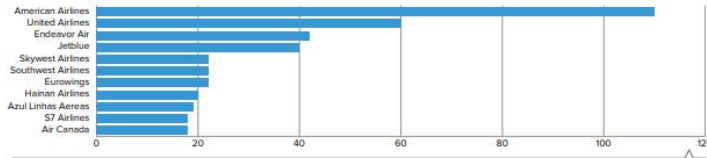


GECAS fleet by region of lessee



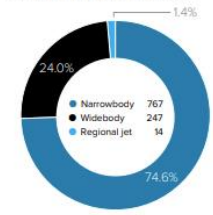
Source: Airfinance Journal's Fleet Tracker as of 30 June, 2021

GECAS top lessees

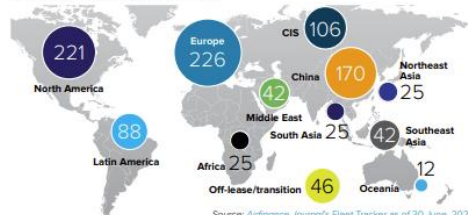


2 Aercap

Aercap fleet by aircraft type

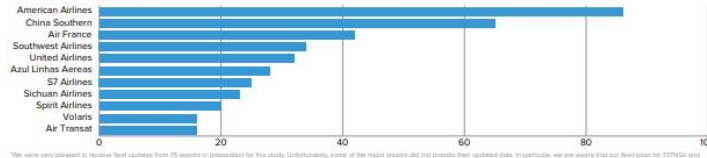


Aercap fleet by region of lessee



Source: Airfinance Journal's Fleet Tracker as of 30 June, 2021

Aercap top lessees



*We were very pleased to receive fleet updates from 75 lessors in preparation for this study. Unfortunately, some of the major lessors did not provide their updated data. In particular, we are aware that our best guess for ZETNG's and AZG's for GECAS and Aercap are higher than disclosed in the recent SEC filing by Aercap. We are working to identify the new owners of these additional aircraft and the results will be available on AJJ Fleet Tracker as soon as possible.

Aggregate industry key ratios

Cash flow - \$ million	2019/20	2020/21
Lease yield (Lease revenue/Average aircraft assets)	13.9%	12.6%
Increase/(decrease) in lease yield		-9.3%
Average interest cost	5.9%	5.4%
Spread (Basic lease yield - Debt interest rate)	8.0%	7.2%
SG&A as % of Total Revenue	6.4%	6.4%
Asset impairments as % of opening PP&E	0.3%	1.8%
Credit losses as % of lease revenue	0.1%	3.0%
EBITDA/Total Finance Costs (x)	3.5	2.6
Return on Average Equity	8.4%	-0.2%

Source: Leasing entities' financial statements and Airfinance Journal Aggregate for 22 aircraft leasing entities