

M-346FA

The single-aircraft Advanced Jet Training and Fighter Attack solution



Bern

20th November 2019

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Leonardo

A global company in the Aerospace, Defence and Security sector with an integrated offer of high-tech and dual-use solutions

2018 REVENUES

in € bn

12.2

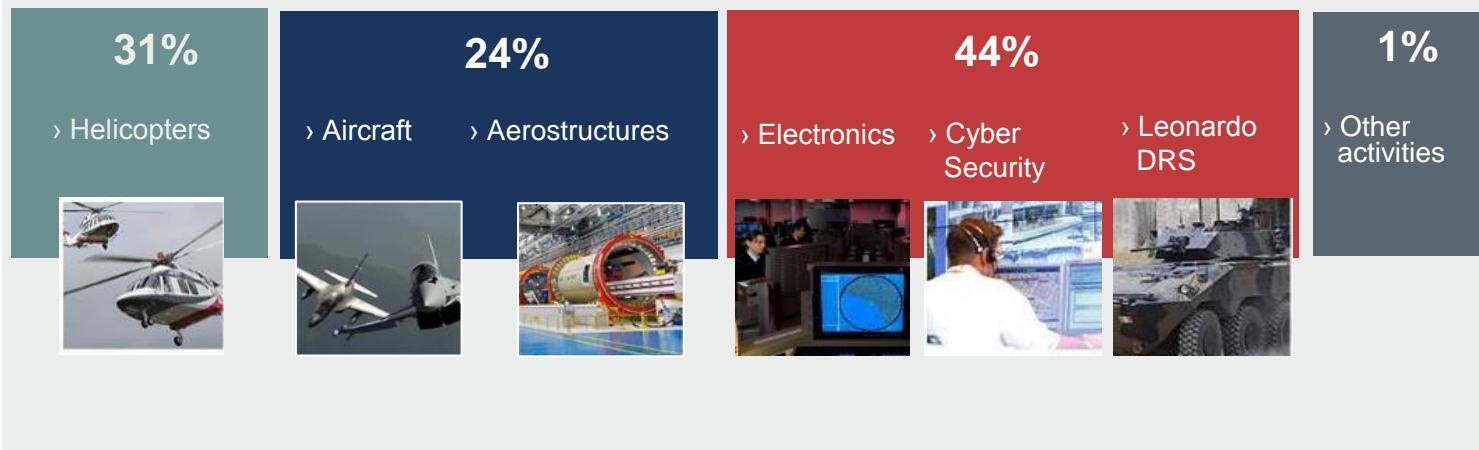
15%

From Italian market

85%

From international markets

REVENUES IN PERCENTAGE



JOINT VENTURES & SUBSIDIARIES



Telespazio
(67% Leonardo)



Thales Alenia Space
(33% Leonardo)



AVIO
(26% Leonardo)



MBDA
(25% Leonardo)



ATR
(50% Leonardo)



Elettronica
(31.33% Leonardo)



Vitrociset
(100% Leonardo)



Leonardo Aircraft – Product Portfolio

FIGHTERS



Partner in the **Eurofighter** program – the most advanced front-line fighter on the market – with 600+ aircraft ordered by 9 Nations



Partner in the **F-35** aircraft, with a *Final Assembly and Check Out (FACO)* line in Italy



M-346 Fighter Attack (FA), variant of the advanced jet trainer, it is an highly effective and low-cost solution to meet light fighter requirements

TRAINERS



M-346, advanced jet trainer features:

- extreme maneuverability
- twin-engine
- Fly-by-wire
- State-of-the-art Human Machine Interface
- Embedded Tactical Training Simulation (ETTS)



M-345 basic jet trainer at the cost of a turboprop, features:

- Performance
- Flexibility
- Low Life Cycle Cost – Affordability
- GBTS
- NATO interoperable
- ITAR Free

AIRLIFTER & SPECIAL VERSIONS

C-27J, true military airlifter



C-27J Multi-mission



ATR42 / 72 MP & ASW, maritime patrol and antisom





M-346 Fighter Attack (FA): One Body, Two Souls

Fighter Attack






Advanced Jet Trainer

- **Slow Mover Intercept**
- **Air Policing**
- **Air Surveillance**
- **Recce**
- **Red-Air / Aggressor**
- **Companion Trainer**

Advanced Jet Trainer and complement to Front-Line fighters



Aermacchi M-346 at a glance

CUSTOMER	ORD.
 Italian Air Force	18
 Int'l Flight Training School	4
 Republic of Singapore Air Force	12
 Israeli Air Force	30
 Polish Air Force	16
M-346FA (Undisclosed)	6

86 tot.

Also selected by:
United Arab Emirates AF



- **Extreme Manoeuvrability**
Wide care-free handling flight envelope & High rate of climb
- **Twin-Engine**
Very High Thrust/Weight Ratio
Increased safety and reliability
- **Auxiliary Power Unit,**
Autonomous Operation from austere airfield



- **Fly-by-Wire**
Full Authority, Quadruplex FCS
- **State-of-the-art Human Machine Interface**
- **Embedded Tactical Training Simulation (ETTS)**

FIGHTER ATTACK (FA)

- 7 Hard-Points
- Smart stand-off weaponry
- Multi-mode radar Grifo M346
- Self Defence capabilities



M-346 Performance

Max level speed	590 KTAS
Limit speed	572 KEAS / 1.2 M
Climb Rate (S.L.)	22,000 ft/min
Service ceiling	45,000 ft (13,700 m)



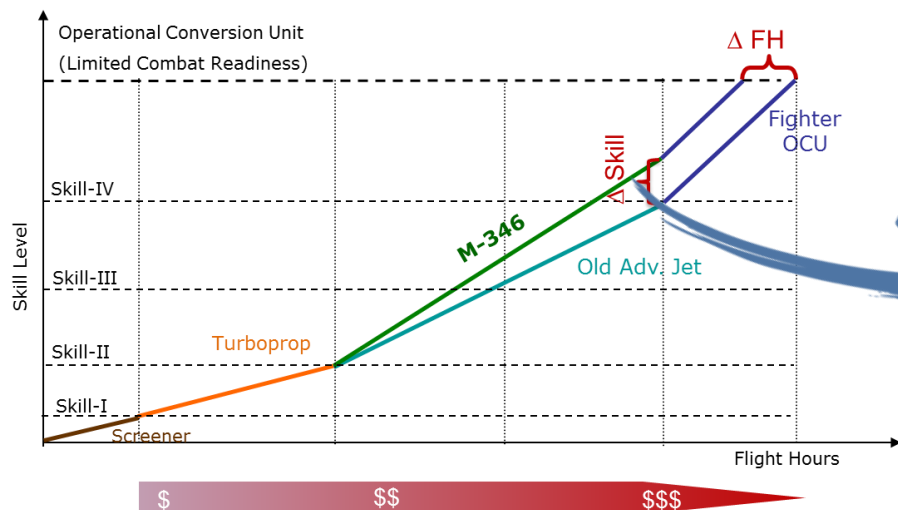
Limit Load Factor	+8 / -3 g
Max sustained Load Factor (S.L.)	8.0 g
Max sustained Load Factor (15,000 ft)	5.2 g
Max sustained Turn Rate (15,000 ft)	11 deg/sec
Max instantaneous Turn Rate (@SL, Clean)	28 deg/sec

Max Range	
• Internal Fuel	1,070 nm
• External Tanks	1,470 nm

M-346 – the most Advanced Jet Trainer on the market

Smooth Transition from Basic Trainer to Front-Line Fighters

- Highest “Teaching Effectiveness” to achieve required skills in less hours
- A significant reduction of hours flown on the most expensive fighters
- Major cost/time saving for the overall pilot formation



Training tasks performed on M-346 instead of Front-Line Fighters

M-346 reduces the conversion costs to the front-line fighter of more than 40%



M-346FA: Additional Roles



Companion Trainer

- M-346 allows **COMBAT READY PILOTS** to maintain and improve proficiency
- M-346 can replace the required companion fighter(s) with less costs per flight hour

- M-346 complements robust Air-Superiority fighters with an efficient less costly platform
- M-346 offers multi-task capability by integrating advanced sensors with smart and precision munitions

Light Fighter

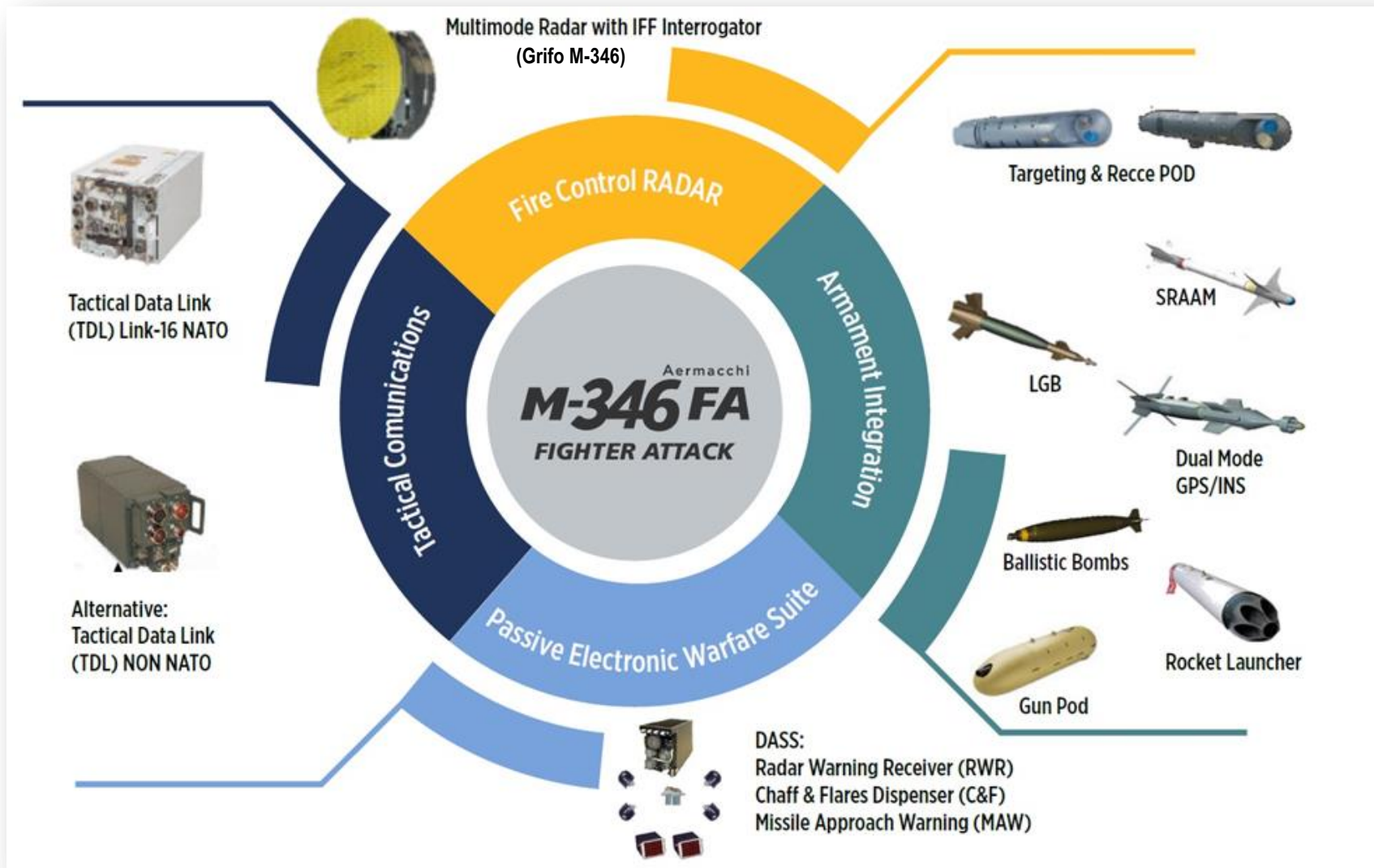
Aggressor / Red-Air



- Simulate real combat manoeuvring against first-line fighter
- M-346 can replace the opponent fighter(s) with less costs per flight hour



M-346FA: advanced sensors, smart weaponry





M-346FA: A cost-effective training and tactical solution

❑ MODERN DESIGN

Modern design assuring optimized thrust/weight ratio for training and operational missions. Integrated Avionics and simulation offering cutting-edge technology.

❑ OUTSTANDING PERFORMANCE

Fighter agility, manoeuvrability and energy level with long endurance and persistency.

❑ OPERATIONAL CAPABILITIES

Equipped with the multi-mode Grifo radar, 7 hard-points for smart stand-off weaponry and self-defense for effective Companion, Aggressor and operational air-to-air missions.

❑ LOW ACQUISITION AND OPERATIONAL COSTS

Low a/c acquisition cost, Low fuel burn, Low maintenance cost when compared to front-line fighters.



**Average Cost ratio Vs
High-End Fighters:**

1/6 Maintenance cost

1/3 Fuel Cost

1/4 Acquisition Cost

AIRCRAFT DIVISION



THANK YOU
FOR YOUR ATTENTION

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