

The Future of Commercial Pilot Training

The background of the slide is a deep blue space scene. On the right side, the curved horizon of the Earth is visible, showing the continents of Africa and Asia in a lighter blue hue. A bright, multi-colored starburst or sun is positioned in the lower center, casting a wide, multi-colored glow across the scene. The overall color palette is dominated by various shades of blue, from dark navy to light cyan.

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Abstract

Aircraft technological advances demand new approaches to training, including user-oriented task-based syllabi, computer-based instruction, high-fidelity flight simulation, competency based performance measurement, and extensive practice in a multi-crew operating environment,

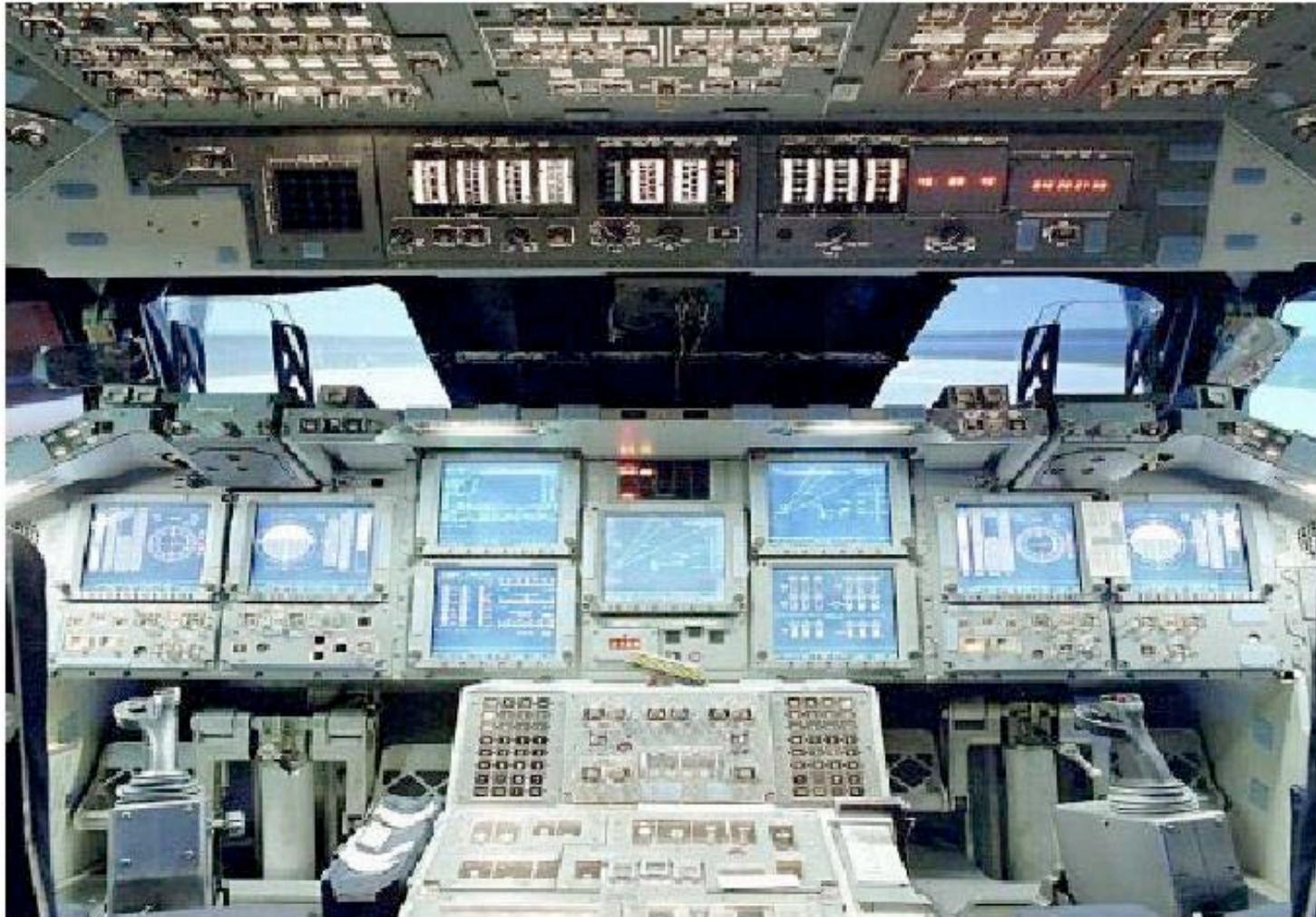
Boeing 787 Digital Cockpit



Airbus A-380 Digital Cockpit



The Space Shuttle Cockpit



Training Aircraft Technology Advances



Boeing 787



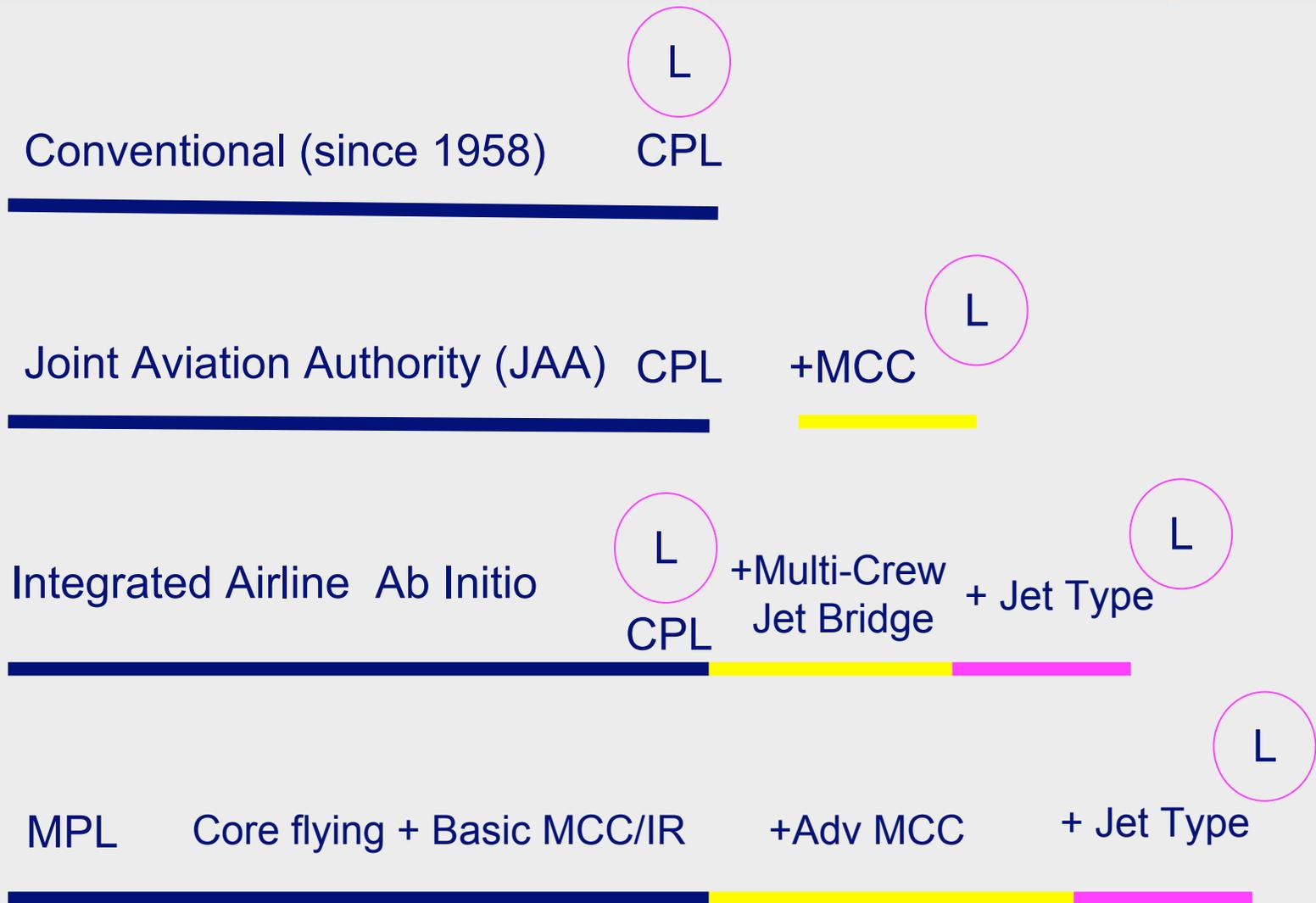
Diamond Training Aircraft with
Garmin G1000 Instrumentation

Garmin Synthetic Vision Technology



Now available in light general aviation aircraft.

Alternative Paths to Licensing



Conventional Commercial Pilot Training

Minimum 190 Pilot Flight Hours



Private Pilot Certification:

35 hours.

Simple single-engine aircraft.



Commercial Pilot Certification:

Instrument Rating: 35 hours

Commercial Pilot: 120 hours

Complex single-engine aircraft.



Multi-Engine Rating:

10 hours minimum

Can be included in CPL 120 hours.

Integrated Ab Initio Airline Training

Public / Private Training Partnerships



Using Modern Glass-Cockpit Trainers



Computer-Based Training for Complex Systems



Flight Training Devices (FTDs)



Integrated Procedure Trainers (IPTs)



Full-Flight Advanced Jet Simulation

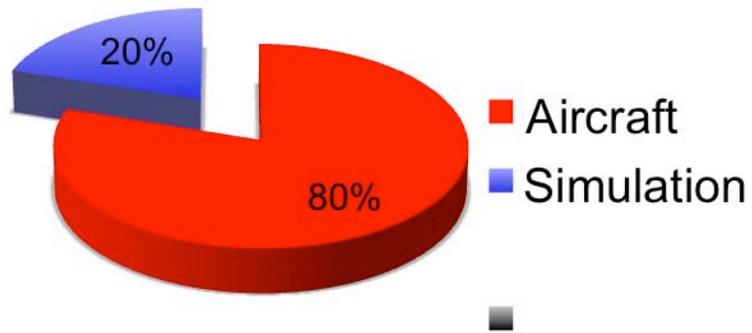


MPL

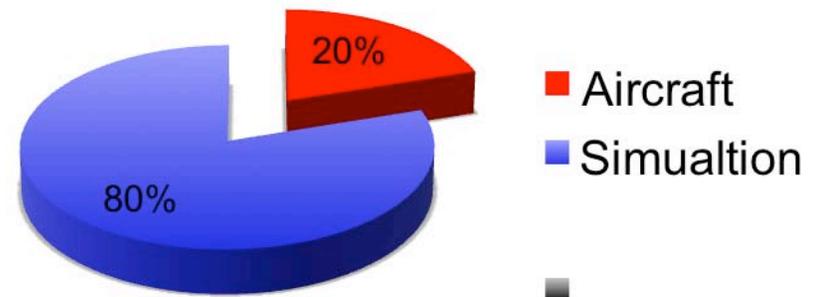
ICAO Multi-Crew Pilot License

Aircraft vs. Simulator Training

Conventional



MPL



Multi-Crew Pilot License (MPL) Scheme

Minimum 240 hours of training including PF and PNF			
Phase of Training	Training Items	Flight and Simulator Flight Training Media Minimum level required	Ground Training Media
Threat & Error Management	<p><i>70% of all aircraft accidents are caused by pilot error.</i></p>		CBT
			E-Learning
			Part Task Trainers
			Classroom

Multi-Crew Pilot License (MPL) Scheme

Minimum 240 hours of training including PF and PNF			
Phase of Training	Training Items	Flight and Simulator Flight Training Media Minimum level required	Ground Training Media
Threat & Error Management			CBT
			E-Learning
			Part Task Trainers
CORE FLYING SKILLS			Classroom
Specific basic single pilot training	CRM VFR cross-country Solo flight Basic instrument Principles of flight Cockpit procedures	Airplane: Single or multi-engine FSTD Type I	PF

Multi-Crew Pilot License (MPL) Scheme

Minimum 240 hours of training including PF and PNF				
Phase of Training	Training Items	Flight and Simulator Flight Training Media Minimum level required	Ground Training Media	
Threat & Error Management			CBT	
			E-Learning	
	LEVEL 1 - BASIC			Part Task Trainers
	Introduction of multi-crew operations and instrument flight	CRM PF/PNF complement IFR cross-country Upset recovery Night flight Instrument flight	Airplane: Single or multi-engine FSTD Type II	
	CORE FLYING SKILLS			Classroom
Specific basic single pilot training	CRM VFR cross-country Solo flight Basic instrument Principles of flight Cockpit procedures	Airplane: Single or multi-engine FSTD Type I	PF	

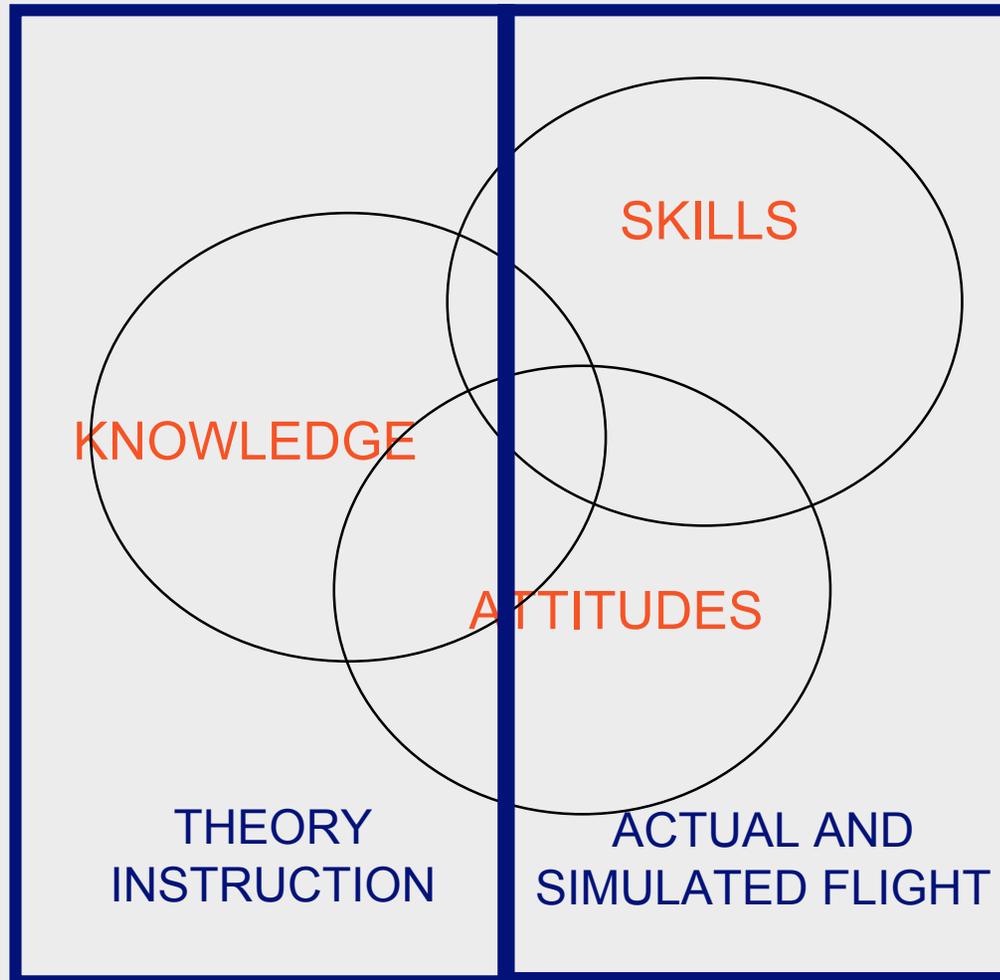
Multi-Crew Pilot License (MPL) Scheme

Minimum 240 hours of training including PF and PNF				
Phase of Training	Training Items	Flight and Simulator Flight Training Media Minimum level required	Ground Training Media	
Threat & Error Management	[Redacted]			CBT
	LEVEL 2 - INTERMEDIATE			E-Learning
	Application of multi-crew operations in a high performance multi-engine turbine airplane	CRM LOFT Abnormal procedures Normal procedures Multi-crew Instrument flight	FSTD Type III	
	LEVEL 1 - BASIC			Part Task Trainers
	Introduction of multi-crew operations and instrument flight	CRM PF/PNF complement IFR cross-country Upset recovery Night flight Instrument flight	Airplane: Single or multi-engine FSTD Type II	
	CORE FLYING SKILLS			Classroom
	Specific basic single pilot training	CRM VFR cross-country Solo flight Basic instrument Principles of flight Cockpit procedures	Airplane: Single or multi-engine FSTD Type I	

Multi-Crew Pilot License (MPL) Scheme

Minimum 240 hours of training including PF and PNF					
Phase of Training	Training Items	Flight and Simulator Flight Training Media		Ground Training Media	
		Minimum level required			
Threat & Error Management	LEVEL 3 - ADVANCED				
	Type rating training within an airline oriented environment	CRM Landing training All Wx scenarios LOFT Abnormal procedures Normal procedures	Airplane: Turbine Multi-Engine Multi-Crew Certification FSTD Type IV	12 takeoffs and landings as PF PF/PNF	CBT
	LEVEL 2 - INTERMEDIATE				
	Application of multi-crew operations in a high performance multi-engine turbine airplane	CRM LOFT Abnormal procedures Normal procedures Multi-crew Instrument flight	FSTD Type III	PF/PNF	E-Learning
	LEVEL 1 - BASIC				
	Introduction of multi-crew operations and instrument flight	CRM PF/PNF complement IFR cross-country Upset recovery Night flight Instrument flight	Airplane: Single or multi-engine FSTD Type II	PF/PNF	Part Task Trainers
	CORE FLYING SKILLS				
	Specific basic single pilot training	CRM VFR cross-country Solo flight Basic instrument Principles of flight Cockpit procedures	Airplane: Single or multi-engine FSTD Type I	PF	Classroom

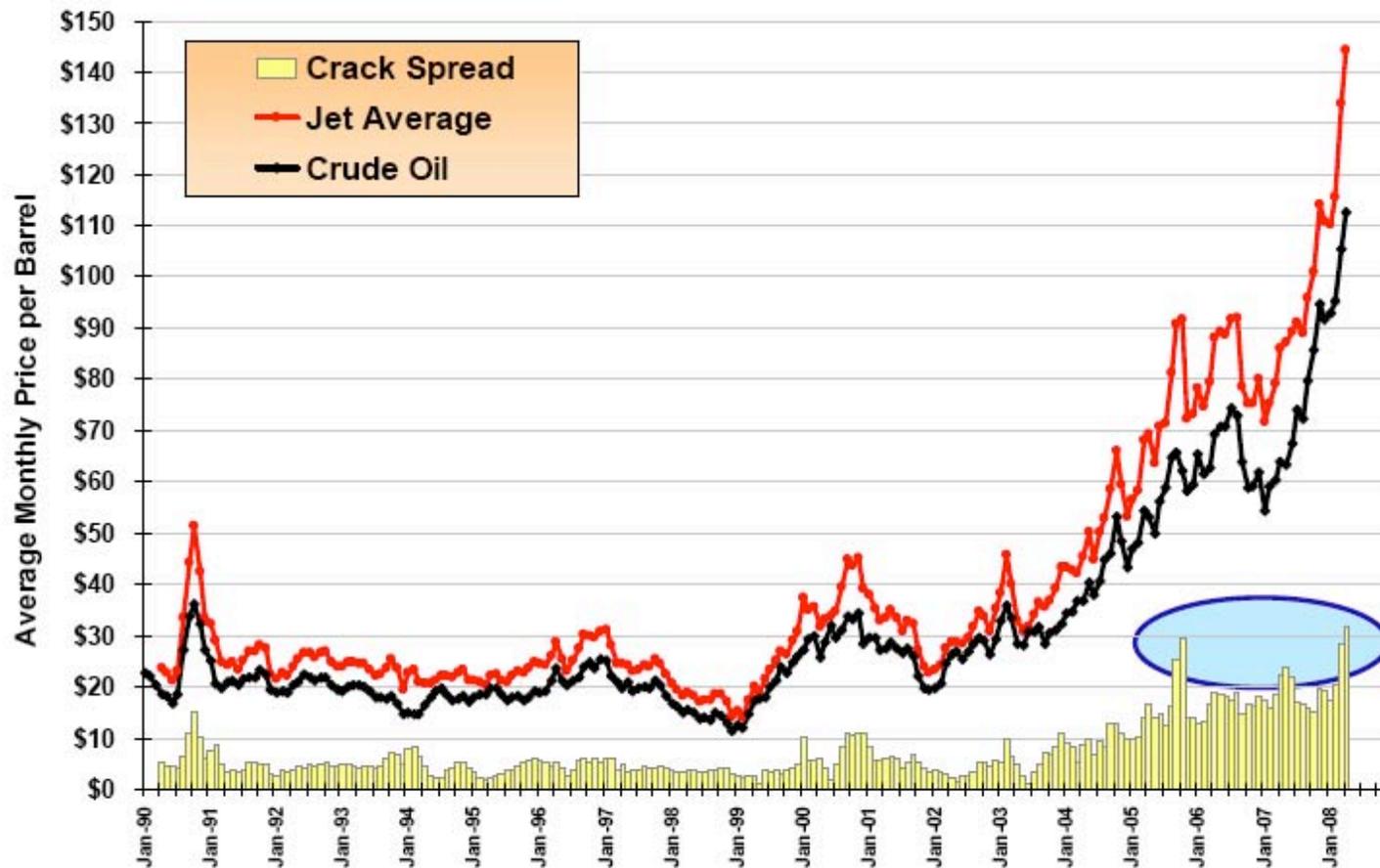
Competency Based



A Compelling Reason to Simulate Flight

Jet Fuel Prices Soaring – Only Partly on Soaring Crude

Crack Spread Has Returned to Hurricane Levels: Far Above \$5 Historical Norm

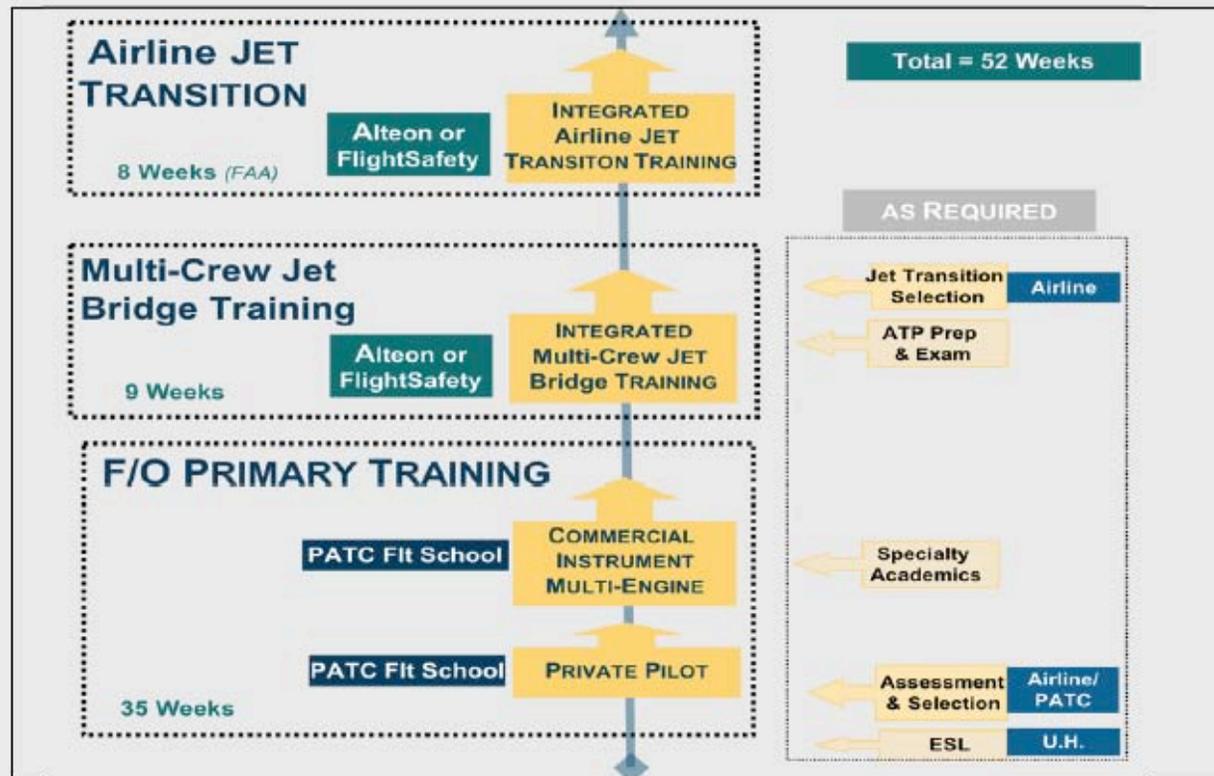


Sources: U.S. Energy Information Administration and the Air Transport Association of America

Pau



Integrated Ab Initio Airline Training



- Eliminates unnecessary Single-engine CPL training events; expands cross-country IFR flying.
- F/O Primary course provides 73 IFR hours, 79 multi-engine prop hours, and 199 total hours.
- Airline Jet Bridge course provides 80 hours multi-crew jet training.
- Airline jet Transition, conducted by training partners (Alteon and/or FlightSafety International).

Alteon First Officer Jet Bridge Training

737-600/-700/-800/-900 First Officer Jet Footprint Transition Course - Part 1

ALTEON
A BOEING COMPANY



Alteon First Officer Jet Bridge Simulator

737-600/-700/-800/-900 First Officer Jet Footprint Transition Course - Part 2

ALTEON
A BOEING COMPANY



Note:

- Day 41: Airplane Base Training, as required by JAR-FCL (not applicable to FAA).